

HEARING ON THE MERITS

SOAH DOCKET NO. 582-07-2673

TCEQ DOCKET NO. 2007-0204-WDW

TRANSCRIPT OF PROCEEDINGS BEFORE THE
STATE OFFICE OF ADMINISTRATIVE HEARINGS
(TEXAS COMMISSION ON ENVIRONMENTAL QUALITY)

AUSTIN, TEXAS

APPLICATION OF TEXCOM GULF)
DISPOSAL, LLC, FOR TEXAS) SOAH DOCKET NO.
COMMISSION ON ENVIRONMENTAL) 582-07-2673
QUALITY COMMISSION UNDERGROUND) TCEQ DOCKET NO.
INJECTION CONTROL PERMIT NOS.) 2007-0204-WDW
WDW410, WDW411, WDW412 AND WDW413)

APPLICATION OF TEXCOM GULF)
DISPOSAL, LLC, FOR TEXAS) SOAH DOCKET NO.
COMMISSION ON ENVIRONMENTAL) 582-07-2674
QUALITY COMMISSION INDUSTRIAL) TCEQ DOCKET NO.
SOLID WASTE PERMIT NO. 87758) 2007-0362-IHW

HEARING ON THE MERITS
WEDNESDAY, DECEMBER 12, 2007

BE IT REMEMBERED THAT at 9:00 a.m., on
Wednesday, the 12th day of December 2007, the
above-entitled matter came on for hearing at the
Montgomery County Commissioners' Court, 301 N.
Thompson, Suite 200, Conroe, Texas before THOMAS
WALSTON AND CATHERINE EGAN, Administrative Law Judges,
and the following proceedings were reported by
Patricia Gonzalez, a Certified Shorthand Reporter of:
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<p>1 APPEARANCES</p> <p>2 FOR THE APPLICANT:</p> <p>3 Mr. John Riley</p> <p>4 Mr. Patrick Lee</p> <p>5 Ms. M. Nicole Adame Winningham</p> <p>6 VINSON & ELKINS</p> <p>7 2801 Via Fortuna</p> <p>8 Suite 100</p> <p>9 Austin, Texas 78746-7568</p> <p>10 Telephone: 512.542.8629 - Fax: 512.236.3265</p> <p>11 E-mail: jriley@velaw.com</p> <p>12 plee@velaw.com</p> <p>13</p> <p>14 FOR THE LONE STAR GROUNDWATER CONSERVATION DISTRICT:</p> <p>15</p> <p>16 Mr. Michael Gershon</p> <p>17 Mr. Jason Hill</p> <p>18 LLOYD GOSSELINK BLEVINS ROCHELLE & TOWNSEND</p> <p>19 816 Congress Avenue</p> <p>20 Suite 1900</p> <p>21 Austin, Texas 78701</p> <p>22 Telephone: 512.322.5800 - Fax: 512.472.0532</p> <p>23</p> <p>24 FOR THE OFFICE OF PUBLIC INTEREST COUNSEL OF THE</p> <p>25 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:</p> <p>Ms. Emily Collins</p> <p>Attorney, Office of Public Interest Counsel</p> <p>12100 Park 35 Circle</p> <p>Building F</p> <p>Austin, Texas 78753</p> <p>Telephone: 512.239.6823 - Fax: 512.239.6377</p> <p>E-mail: ecollins@tceq.state.tx.us</p> <p>FOR THE ALIGNED INDIVIDUAL PROTESTANTS:</p> <p>Mr. Kevin Forsberg</p> <p>THE FORSBERG LAW FIRM</p> <p>15949 Highway 105 W.</p> <p>Suite 59</p> <p>Montgomery, Texas 77316</p> <p>Telephone: 936.588.6226 - Fax: 936.588.9229</p> <p>E-mail: Kevin@forsberglaw.net</p>	<p>1 PROCEEDINGS</p> <p>2 WEDNESDAY, DECEMBER 12, 2007</p> <p>3 (9:00 a.m.)</p> <p>4 (TexCom Exhibit Nos. 1 through 50 and 52</p> <p>5 through 63 marked)</p> <p>6 JUDGE WALSTON: Okay. We'll go on the</p> <p>7 record at this time.</p> <p>8 Good morning. My name is Tom Walston,</p> <p>9 and this is Cathy Egan. We are both Administrative</p> <p>10 Law Judges with the State Office of Administrative</p> <p>11 Hearings.</p> <p>12 For the record, today's date is</p> <p>13 December 14, 2007, and this hearing is being held at</p> <p>14 the Montgomery County Commissioners' Courtroom in</p> <p>15 Conroe, Texas. I will call SOAH Docket Nos. -- oh,</p> <p>16 today is the 12th. I'm sorry.</p> <p>17 (Laughter)</p> <p>18 JUDGE WALSTON: I said the 14th.</p> <p>19 JUDGE EGAN: Oh, okay.</p> <p>20 JUDGE WALSTON: December 12th.</p> <p>21 I will call SOAH Docket No. 582-07-2673,</p> <p>22 TCEQ Docket No. 2007-0204-WDW, and SOAH Docket No.</p> <p>23 582-07-2674, TCEQ Docket No. 2007-0362-IHW, the</p> <p>24 Applications of TexCom Gulf Disposal, Inc., for</p> <p>25 Underground Injection Control Permit Nos. WDW410, 411,</p>
Page 3	Page 5
<p>1 APPEARANCES - CONTINUED</p> <p>2 FOR THE EXECUTIVE DIRECTOR OF THE</p> <p>3 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:</p> <p>4</p> <p>5 Ms. J. Diane Goss</p> <p>6 Mr. John Williams</p> <p>7 Environmental Law Division</p> <p>8 12100 Park 35 Circle, Building A</p> <p>9 Austin, Texas 78753</p> <p>10 Telephone: 512.239.5731 - Fax: 512.239.0606</p> <p>11 FOR THE ALIGNED PROTESTANTS MONTGOMERY COUNTY</p> <p>12 AND CITY OF CONROE:</p> <p>13</p> <p>14 Mr. David Walker</p> <p>15 County Attorney</p> <p>16 Ms. Julie Stewart</p> <p>17 Assistant County Attorney</p> <p>18 207 West Phillips</p> <p>19 Conroe, Texas 77301</p> <p>20 Telephone: 936.539.7828 - Fax: 936.539.7957</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p>1 412 and 413, and for Industrial Solid Waste Permit</p> <p>2 No. 87758.</p> <p>3 I'll just note for the record that we</p> <p>4 have a good crowd here this morning and we're pleased</p> <p>5 that you are all here. I'll ask everyone to be sure</p> <p>6 and turn off your cell phones or any other electronic</p> <p>7 devices that will make noise. And, also, I'll just</p> <p>8 remind everyone that this is an official proceeding</p> <p>9 and we'd expect everybody to act respectful and with</p> <p>10 dignity.</p> <p>11 We'll start off by taking appearances of</p> <p>12 the parties. We'll just start on this side and go</p> <p>13 around.</p> <p>14 Mr. Riley, you can begin.</p> <p>15 MR. RILEY: Thank you, Your Honor. Good</p> <p>16 morning. Good morning, everybody.</p> <p>17 My name is John Riley. I'm with the law</p> <p>18 firm of Vinson & Elkins, and I represent the applicant</p> <p>19 in this matter, TexCom Gulf Disposal, L.L.C. With me</p> <p>20 this morning is Mr. Patrick Lee who you also will be</p> <p>21 hearing in the course of this hearing. And Nikki</p> <p>22 Adame Winningham is also with us seated in the first</p> <p>23 row.</p> <p>24 JUDGE WALSTON: Okay. Can you-all hear</p> <p>25 back there? Is the microphone working?</p>

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<p style="text-align: right;">Page 6</p> <p>1 CHORUS OF VOICES: No. 2 JUDGE WALSTON: I don't think it was 3 working. 4 MR. RILEY: Well, I think it's because 5 I'm not high enough, so -- 6 JUDGE WALSTON: Okay. Everybody be sure 7 and -- 8 MR. RILEY: -- I'll try and speak into 9 the mic. 10 JUDGE WALSTON: Okay. 11 MS. COLLINS: Judges, good morning. My 12 name is Emily Collins. I am an attorney with the TCEQ 13 Office of Public Interest Counsel. 14 MR. WALKER: Good morning, Your Honor. 15 My name is David Walker, presently serve as the 16 Montgomery County Attorney. I am representing the 17 interest of Montgomery County, aligned with the City 18 of Conroe. Appearing with me today is Julie Stewart, 19 Assistant County Attorney. 20 MR. FORSBERG: Good morning, Your 21 Honors. My name is Kevin Forsberg. I'm here 22 representing the interests of the Aligned Individual 23 Protestants in this matter. 24 MR. WILSON: My name is Art Wilson. I 25 am an individual protestant.</p>	<p style="text-align: right;">Page 8</p> <p>1 rather, I guess, fundamental, but I'll just make a 2 brief opening statement. 3 JUDGE WALSTON: Okay. I don't think 4 your microphone is working still. 5 MR. RILEY: I don't think so either, so 6 I'm going to step to the podium there as well. 7 JUDGE EGAN: And you're welcome to face 8 the audience, because we can hear you. We're close 9 enough to hear you. 10 MR. RILEY: I don't know about facing 11 the audience, Judges, but I'll at least speak into the 12 microphone. 13 JUDGE EGAN: Okay. You might want to 14 make sure it's turned on. 15 MR. RILEY: Not that I don't want to. 16 It's just that I have some papers to refer to. 17 OPENING STATEMENT ON BEHALF OF THE APPLICANT 18 MR. RILEY: Good morning, Judge Walston 19 and Judge Egan. As we've just covered, my name is 20 John Riley and -- 21 JUDGE WALSTON: Is it turned on? I 22 think there's a -- 23 MR. RILEY: It is on. 24 JUDGE WALSTON: Can you tap it? 25 Mr. Riley, tap it there and see if it --</p>
<p style="text-align: right;">Page 7</p> <p>1 MR. GERSHON: My name is Mike Gershon 2 with the law firm of Lloyd Gosselink. With me, my 3 co-counsel, Jason Hill. We represent the Lone Star 4 Groundwater Conservation District, a district that is 5 headquartered here in Conroe with jurisdiction over 6 groundwater resources in Montgomery County. 7 MR. WILLIAMS: John Williams and Diane 8 Goss, staff attorneys for the Texas Commission on 9 Environmental Quality representing the Executive 10 Director. 11 JUDGE WALSTON: Okay. Thank you. Are 12 there any preliminary matters that we need to take up 13 with the parties? 14 (No verbal response) 15 JUDGE WALSTON: I don't have any. I 16 don't believe there are. 17 MR. RILEY: Not that I'm aware of. 18 JUDGE WALSTON: Okay. Mr. Riley, would 19 you or Mr. Lee like to proceed? Do you wish to make 20 an opening statement? 21 MR. RILEY: As you know, Judge, I don't 22 customarily make an opening statement in these 23 hearings, but I will in this case, largely because of 24 the members of the public that are present. So I 25 apologize to you in advance that some of this may seem</p>	<p style="text-align: right;">Page 9</p> <p>1 (Mr. Riley complied) 2 JUDGE WALSTON: Okay. 3 JUDGE EGAN: It's on. 4 MR. RILEY: I'll do the best I can. 5 JUDGE WALSTON: Okay. That's fine. 6 MR. RILEY: As I said, my name is John 7 Riley, and I represent the applicant in this matter 8 and I'll just make a brief opening statement regarding 9 the obligation of TexCom to prove that its 10 applications meet all applicable standards, rules and 11 statutes that are -- preside over or under the 12 jurisdiction of the Texas Commission on Environmental 13 Quality. 14 I think it's worthy of saying in open 15 forum that, of course, most of the evidence in this 16 case has already been presented by the way of prefiled 17 testimony, and so that perhaps folks in the audience 18 understand, that we will begin by calling witnesses -- 19 the applicant will begin by calling witnesses and we 20 will almost immediately turn those witnesses over for 21 cross-examination. So it may not be readily apparent 22 to members of the audience that evidence is being 23 presented on behalf of the applicant through those 24 witnesses in the form of prefiled testimony. 25 I mention that because this process,</p>

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<p style="text-align: right;">Page 10</p> <p>1 while we know it fairly well and learn more every day 2 about it, it is a bit foreign, I suspect, to folks who 3 may be in attendance, but I didn't want to leave the 4 impression that we simply put witnesses up for 5 cross-examination without having presented evidence on 6 behalf of those witnesses previously. And as you 7 know, we will begin by those witnesses accepting that 8 evidence as their sworn testimony in this case and 9 then proceed from that point. It's also helpful to 10 the witnesses who are here who may not appreciate the 11 process either. 12 There are many concerns that are raised 13 in these cases. This case is unique in the sense that 14 it is a site specific application and it purports to 15 make certain demonstrations in terms of compliance 16 with rules, but it is not unique in the sense that 17 many folks in the communities where these facilities 18 exist have concerns that may or may not be based in 19 scientific premise or principle but are concerns. And 20 while it is our hope that many, if not all, of those 21 concerns are addressed in this proceeding, it is not 22 our objective, and it, frankly, could not be our 23 objective to address everyone's individual concerns. 24 We hope that the science that we present 25 through our qualified and expert witnesses will allay</p>	<p style="text-align: right;">Page 12</p> <p>1 amount of waste generated in association with 2 producing products that we all use and our lives are 3 bettered by it. 4 The point I'm trying to make is fairly 5 simple -- and maybe I'm making it more convoluted than 6 I need to -- is that TexCom -- frankly, if there isn't 7 a waste -- a need for waste disposal, well, then 8 TexCom's business model fails. If the waste is out 9 there and needs to be disposed of, then we believe 10 TexCom's proposal not only is sound according to 11 meeting the rules and regulations of the TCEQ and 12 protecting the environment but sound from the 13 perspective of it offers a service to industries that 14 currently exist and that need that service. As 15 industries increase their production or grow in a 16 community, their waste needs grow, and waste disposal 17 is as much a part of the infrastructure as all the 18 other elements that we think of more readily, perhaps, 19 such as electricity and other types of things that 20 industries focus on in determining whether they're 21 going to locate in a particular place or increase 22 their production in a particular place. Waste 23 disposal is part of that infrastructure. And TexCom, 24 if its proposal -- or if its permit is issued by the 25 TCEQ, will assist in growing that industrial base and</p>
<p style="text-align: right;">Page 11</p> <p>1 some of those fears that may be based, frankly, in 2 some misinformation that emanates out from cases or 3 proceedings such as this and will be clarified in the 4 process of this hearing, but at the end of the day, it 5 is not our objective -- and with due respect to those 6 concerns, it is not our objective to make everyone 7 feel as though the permit guarantees or is an 8 absolute. 9 And I mean that only in the sense that 10 there can be many, many kinds of concerns that may not 11 be based on any scientific premise or principle, and 12 we simply can't meet the burden of addressing 13 everyone's individual concern. But it's not that we 14 don't think that some of the concerns raised will be 15 addressed as we clarify what truly TexCom is proposing 16 in this application. 17 Specifically, TexCom is not a generator 18 of waste, and I bring that up because I want to make 19 clear that TexCom will not increase the amount of 20 waste that is generated by industries that, frankly, 21 we all benefit from, both in the local community and 22 more generally in the state of Texas. I think it's 23 well known that Texas has a robust economy, a robust 24 industrial base, and part of that fabric of Texas is 25 that much -- or there is a sizable and substantial</p>	<p style="text-align: right;">Page 13</p> <p>1 making the -- or feeding, I should say, into the 2 robust economy and robust industrial base that Texas 3 benefits from. 4 I would also mention that we come at 5 this point pretty much at the culmination of the 6 process, not necessarily at the beginning of the 7 process. So the process began more than two years 8 ago, in the sense that TexCom delivered its permit 9 application and its permit application was determined 10 what is termed "administratively complete" by the 11 Texas Commission on Environmental Quality in August 12 2005. And after a rigorous internal review, which did 13 invite public comment at several steps in the process, 14 the TCEQ, in its own independent evaluation of whether 15 the TexCom proposal is protective of human health and 16 the environment, issued a draft permit. And the staff 17 of the TCEQ, which is referred to in these hearings as 18 the Executive Director staff, is the bulk of the 19 agency, the part of the agency that contains the 20 technical expertise that the agency relies on and, 21 frankly, the citizens of Texas rely on in making these 22 types of decisions and issuing these types of permits. 23 I think it is worthy of note -- and I 24 think it was mentioned at one of the preliminary 25 matters, that two of the witnesses for the Executive</p>

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<p style="text-align: right;">Page 14</p> <p>1 Director are nearing retirement age. And I mention 2 that not because I want to say congratulations on 3 reaching that point in your career, but because they 4 are, clearly, very, very experienced individuals and 5 have been doing these kinds of permits in the state of 6 Texas for many years.</p> <p>7 It is also true that this is not a 8 unique proposal. The TexCom disposal well is not the 9 only disposal well even operating in this area or even 10 permitted in this area. Indeed, the TexCom disposal 11 well was previously permitted, but never operated. It 12 was under the TCEQ Waste Disposal Well No. 310. And I 13 say "the well." The existing well was previously 14 permitted and had been reviewed at that time by the 15 TCEQ and was re-reviewed in this two-year process 16 under the TexCom proposal.</p> <p>17 But I mention the other wells that 18 operate currently in Montgomery County. We know them 19 as two classes. Essentially, Class I, which is the 20 type of well that TexCom proposes, and Class II, which 21 is the type of well that is associated with disposal 22 of oil and gas production-related waste. And Class II 23 wells are -- number over 50,000, is my understanding, 24 in the state of Texas. And while I do not think those 25 wells or those disposal activities are unsafe, I will</p>	<p style="text-align: right;">Page 16</p> <p>1 on that basis.</p> <p>2 And I mention the formation that we 3 consider the confining unit at this point because it 4 really is an essential portion of the evidence that 5 TexCom has presented, and I think in the course of 6 this case you will learn, through the evidence that's 7 already been introduced and testimony adduced during 8 the live action, that the Jackson shale formation is 9 an impermeable layer that is over a thousand feet 10 thick that is considered the confining unit above the 11 formation where TexCom proposes to inject.</p> <p>12 The formation immediately below that is 13 considered -- is called the Cockfield formation, 14 although it has at least one other name called the 15 Yegua formation. And the Cockfield formation itself 16 is a Cockfield sand or is -- it includes sand layers, 17 I should say, and it is broken into three layers, the 18 upper, the middle and the lower Cockfield formation. 19 And the geologists in this case I believe will all 20 agree that the Cockfield formation has that feature 21 and that TexCom's proposal is to inject into the lower 22 Cockfield formation, which is separated by a shale 23 layer from the middle Cockfield formation which is 24 separated by a shale layer from the upper Cockfield 25 formation which all underlies the thousand-foot</p>
<p style="text-align: right;">Page 15</p> <p>1 mention that the materials, in the chemical sense, 2 that are disposed in the Class II wells are often 3 what's referred to as hazardous waste and are often 4 more toxic or more threatening to the environment than 5 the types of materials that TexCom proposes to inject.</p> <p>6 It's not as though they're bad and 7 TexCom is good. That's not what I'm trying to say. I 8 want to point out, though, that waste disposal through 9 injection well is not an unprecedented type of 10 activity. In fact, the oil and gas industry depends 11 very heavily on it in order to remain economic and 12 competitive in producing oil and gas in Texas, and it 13 is, by exception, a specific exception in federal law 14 that waste that would ordinarily be classified as 15 hazardous is disposed of in these Class II wells. 16 And, again, while they're -- I can't say it's been 17 without incident in the course of time, those Class II 18 wells are active and they number more than 50,000 at 19 the present time. The type of well that TexCom 20 proposes, there are fewer in number, but no less sound 21 in terms of environmental safety, and they number over 22 100 in Texas, as I understand it.</p> <p>23 Again, I mention that simply to put in 24 perspective that the TexCom proposal is not unique, 25 but it still has unique features and must be evaluated</p>	<p style="text-align: right;">Page 17</p> <p>1 Jackson shale formation, which is the confining unit 2 as we see it.</p> <p>3 I by no means intended in this 4 introduction to go this long, first -- 5 (Laughter)</p> <p>6 MR. RILEY: -- and then, second, to be 7 inclusive of all the evidence that will -- that has 8 been presented that will be introduced by way of the 9 witnesses for TexCom and the other parties, but I did 10 intend -- and I hope I did, give some summary of why 11 it is that TexCom is assured and is confident that its 12 proposal to inject nonhazardous wastewaters that 13 currently travel on roads in the county that currently 14 are generated by companies that produce products that 15 we all benefit from, that injection of those 16 wastewaters, some 6,000 feet -- or more than 17 6,000 feet below the Jackson shale formation into the 18 lower Cockfield is protective of human health and the 19 environment.</p> <p>20 I thank you for this time.</p> <p>21 JUDGE WALSTON: Thank you, Mr. Riley. 22 Ms. Collins, do you wish to make a 23 statement?</p> <p>24 MS. COLLINS: I don't have an opening 25 statement, Your Honor. Thank you.</p>

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<p style="text-align: right;">Page 18</p> <p>1 JUDGE WALSTON: Okay. Mr. Walker. 2 OPENING STATEMENT ON BEHALF OF 3 THE ALIGNED PROTESTANTS 4 MONTGOMERY COUNTY AND CITY OF CONROE 5 MR. WALKER: Judge Walston, Judge Egan, 6 good morning, assembled counsel, ladies and gentlemen. 7 Your Honor, this case is about water, 8 disposal of industrial wastewater and the protection 9 of our most valuable natural resource, pure, clean, 10 drinking water. The Aligned Protestants Montgomery 11 County and the City of Conroe recognize these 12 competing issues. Certainly we recognize, as 13 Mr. Riley has pointed out, the necessity for proper 14 disposal of industrial waste. The aligned 15 protestants, however, Your Honor, believe that clearly 16 and easily the more important public interest is the 17 protection of Montgomery County's drinking water. 18 I believe the evidence in this contested 19 hearing, Your Honor, will show the following: First, 20 the proposed injection site is in the middle of the 21 Conroe oil field, an old, giant oil field. I believe 22 the evidence will show that the area of review, which, 23 of course, we will discuss at length during this 24 contested hearing, contains some 500 -- let me state 25 that again -- 500 old abandoned oil wells dating back</p>	<p style="text-align: right;">Page 20</p> <p>1 geologic study and mathematical calculations that 2 injected waste will never migrate into subsurface 3 aquifers, the sole source of drinking water for 4 Montgomery County. Your Honors, the evidence will 5 show the uncertainty of their math and the poor 6 quality of their hydrogeologic presentation. 7 The purity and integrity of Montgomery 8 County's drinking water, Your Honor, is an abiding, 9 absolutely critical matter of public interest to the 10 citizens of Montgomery County, numbering about 400,000 11 people. This critical, natural resource is far too 12 precious to entrust to the mathematical assumptions of 13 men who are driven by profit. 14 Thank you very much. 15 JUDGE WALSTON: Thank you, Mr. Walker. 16 Mr. Forsberg. 17 OPENING STATEMENT ON BEHALF OF 18 THE ALIGNED INDIVIDUAL PROTESTANTS 19 MR. FORSBERG: If you don't mind, I'm 20 going to flip the microphone around here. 21 JUDGE WALSTON: That's fine. 22 MR. FORSBERG: Since the Court has given 23 me the option, kindly, I will take this opportunity to 24 not turn my back to the public, like TexCom has done 25 throughout this process, and began today doing that</p>
<p style="text-align: right;">Page 19</p> <p>1 to the 1930s. These old oil wells, the evidence will 2 show, constitute what are called or what is called 3 artificial penetrations into and through the Jackson 4 formation, previously referred to as the Jackson 5 confining unit or layer. The integrity of these 500 6 oil wells is largely unknown. 7 The evidence will show, I propose, that 8 the Conroe field and the area of review show extensive 9 faulting, both surface and subsurface, and the 10 evidence will discuss those issues at length. 11 The evidence will further show that the 12 combination of faulting and the presence of hundreds 13 of artificial penetrations in the area of review make 14 the injection site an absolutely risky and bad choice 15 for siting of an industrial wastewater injection well. 16 The obvious question is "Why? Why would 17 that be the case?" The evidence will show, Your 18 Honor, that all of Montgomery County's drinking water 19 is groundwater, subsurface sources of water. There is 20 no surface source of drinking water in Montgomery 21 County. 22 The evidence will show that the 23 applicant's plan, certainly more detailed than I'm 24 fixing to -- there's a country term -- that I'm about 25 to enumerate, but the applicant's plan is based upon a</p>	<p style="text-align: right;">Page 21</p> <p>1 very same thing. 2 My name is Kevin Forsberg, and I 3 represent the Aligned Individuals in this matter, a 4 group of individuals, who, without any compensation or 5 any other benefit, have taken upon themselves to spend 6 days and days and months and months of their time 7 fighting something they do not want. 8 It is clear that my clients will be the 9 ones most immediately affected. Their water wells sit 10 above the area where the injection is going to occur. 11 Their land sits next to the property where the 12 injection is going to occur. These individuals have 13 shown such heart and dedication, that I commend them 14 as their attorney. 15 And in this case, it is not only that 16 heart that is important, because a lot of times people 17 have emotion that isn't really supported by the facts 18 or the evidence. In this case, my clients are right. 19 The City of Conroe, the County of Montgomery, Lone 20 Star Water Conservation, all of these parties are 21 together in fighting this. 22 The evidence will show what Mr. Walker 23 so correctly said. Furthermore, the people don't want 24 this. That should matter in a system such as ours. I 25 realize that they can argue that the dots have been</p>

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<p style="text-align: right;">Page 22</p> <p>1 put on the i's and the t's have been crossed in their 2 application and other materials, but does it not 3 matter what people really want? Does the disposal 4 need to be done? Waste has to go somewhere. Does it 5 have to go into a county of 400,000 people next to 6 people's property, underneath their water wells? Is 7 this the right place for it to go? The evidence is 8 going to show it's not.</p> <p>9 TexCom is, essentially -- and I believe 10 the evidence will show this, a wildcatter. They are 11 looking for quick ways to make a buck, but their 12 bottom line, corporate documents show that their 13 future is really banked upon crushing soybeans in 14 Paraguay, this biodiesel type industry where they're 15 trying to make some bucks out in disposing of waste 16 material underneath our feet in an effort to hopefully 17 fund the South American ventures that they've got 18 going on.</p> <p>19 With regards to a 1994 permit that was 20 issued, Montgomery County is not the county it was in 21 1994, number one. This county is a county of immense 22 growth. The standards have changed a lot since 1994 23 with regards to the law on UIC wells and so on.</p> <p>24 The UIC wells -- the reason that the 25 permit was issued then does not mean the permit should</p>	<p style="text-align: right;">Page 24</p> <p>1 know that their water and their safety is taken care 2 of as well.</p> <p>3 So I hope to give a voice to the people 4 in this matter and I believe that the evidence will 5 take care of the legal side of it. Thank you.</p> <p>6 JUDGE WALSTON: Thank you, Mr. Forsberg. 7 Mr. Gershon.</p> <p>8 OPENING STATEMENT ON BEHALF OF THE 9 LONE STAR GROUNDWATER CONSERVATION DISTRICT</p> <p>10 MR. GERSHON: I really don't mean to 11 turn my back to anybody.</p> <p>12 JUDGE WALSTON: I understand.</p> <p>13 MR. GERSHON: I'm not quite sure where 14 to stand at this point.</p> <p>15 (Laughter)</p> <p>16 JUDGE WALSTON: Stand wherever you're 17 most comfortable.</p> <p>18 MR. GERSHON: Again, I'm Mike Gershon. 19 I represent the Lone Star Groundwater Conservation 20 District. The district is headquartered here in 21 Conroe. The district has jurisdiction throughout 22 Montgomery County and is charged with protecting the 23 groundwater, the aquifers throughout the county.</p> <p>24 I'd like to introduce to you our Board 25 president, Orval Love, who's here with us today in the</p>
<p style="text-align: right;">Page 23</p> <p>1 be issued now. It's just not the same place. The 2 fact that nothing was actually ever disposed in this 3 well, even though it sat there, says something about 4 it as well.</p> <p>5 Furthermore, the law has changed in 6 addition to Montgomery County. The law with regards 7 to wildcatters changed immensely over the decades in 8 order to protect the environment and to protect oil 9 production. It took a while for those laws to catch 10 up with the oil industry. The law with regards to UIC 11 wells is fluid as well. We know there was a change 12 last week that we understand and recognize with 13 regards to this.</p> <p>14 So it's not so easy as to say, "We had 15 it before" -- or, "Some previous company that went 16 belly up had a permit before, so we get one now. Not 17 only do we get one, we get four." It doesn't work 18 that way.</p> <p>19 I'm not going to take a lot of time. 20 The evidence is for the Court to consider, but I am 21 here representing some very strong individuals, people 22 I'm proud to represent.</p> <p>23 On a selfish note, I'm here also as a 24 member of Montgomery County's community. I go home at 25 night with three children and a wife, and I want to</p>	<p style="text-align: right;">Page 25</p> <p>1 second row, as well as the general manager, Cathy 2 Jones.</p> <p>3 Our board of directors at the district 4 have taken great interest in this application and have 5 committed significant resources to studying TexCom's 6 project and their applications.</p> <p>7 It's important to recognize the nature 8 of the district. The district is a governmental 9 entity. It's a political subdivision of the State of 10 Texas. It was created by the Texas Legislature to 11 manage and protect the quality and the resources -- 12 the groundwater resources of Montgomery County. 13 That's important to keep in mind throughout this 14 hearing.</p> <p>15 What's also important to point out is 16 that the district is cognizant of the type of economic 17 issues that both the applicant and Mr. Walker, 18 Mr. Forsberg have eloquently laid out. The district 19 is not predisposed against these types of projects. 20 We understand the need for waste disposal in the 21 state. The district's approach, initially, in keeping 22 an open mind, was to hire the best experts that could 23 be found to study the application and to study the 24 application up front before it ultimately made up its 25 mind whether or not it was a good project.</p>

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<p style="text-align: right;">Page 26</p> <p>1 As the evidence will show, the experts 2 that we selected make a business in this industry of 3 often representing applicants like TexCom. They 4 aren't, frankly, predisposed one way or the other. 5 They're just good at what they do. They have years -- 6 decades of experience in looking at these types of 7 projects, and they work with TCEQ on these types of 8 projects day in and day out. 9 These experts -- again, this is a very 10 technical driven case. There are lots of very 11 detailed, technical hydrogeological and chemical 12 issues. Our experts know, intimately, the good and 13 the bad things that can happen from these types of 14 projects. The district's experts have done their 15 homework, and as will be shown in this case, did 16 determine that TexCom's project will endanger human 17 health and the environment. 18 At the end of the day, the Judges in 19 this case, and, ultimately, the three-member 20 Commission back in Austin, the Texas Commission on 21 Environmental Quality, will ultimately have to decide 22 whether TexCom met its burden. That burden requires 23 that TexCom establish by a preponderance of the 24 evidence that it can meet all of the statutory and 25 regulatory elements. The district is committed to</p>	<p style="text-align: right;">Page 28</p> <p>1 JUDGE WALSTON: Okay. Dr. Ross, you'll 2 need to sit over here. I think you can work your way 3 through there -- either way. 4 Will you raise your right hand? 5 (Witness sworn) 6 JUDGE WALSTON: Okay. Be seated. Pull 7 that mic up close to you if you can and state your 8 full name for the record. 9 A My name is Louis Ross. 10 JUDGE WALSTON: Thank you. 11 You may proceed. 12 MR. RILEY: Thank you, Your Honor. 13 PRESENTATION ON BEHALF OF THE APPLICANT 14 LOUIS ROSS, Ph.D., 15 having been first duly sworn, testified as follows: 16 DIRECT EXAMINATION 17 BY MR. RILEY: 18 Q Good morning, Dr. Ross. 19 A Good morning. 20 Q Are you able to hear me? 21 A Yes, fine. 22 Q Dr. Ross, as part of this application and 23 this proceeding here this morning, have you prepared 24 what is known as prefiled testimony? 25 A Yes, I have.</p>
<p style="text-align: right;">Page 27</p> <p>1 making its case and contends that it has made its case 2 and will defend its testimony in the hearing this week 3 and next week, and we are committed to working to 4 defeat these applications. 5 Thank you. 6 JUDGE WALSTON: Okay. Thank you, 7 Mr. Gershon. 8 Ms. Goss or Mr. Williams? 9 MR. WILLIAMS: Your Honor, the Executive 10 Director does not have an opening statement. 11 JUDGE WALSTON: Okay. Thank you. 12 Mr. Riley, you ready to proceed? 13 MR. RILEY: Yes, Your Honor. 14 JUDGE WALSTON: Okay. You can call your 15 first witness. 16 MR. RILEY: Is that any better? Is the 17 mic working at all? 18 JUDGE WALSTON: I can't tell here. 19 Can the -- can you-all hear out there? 20 (Simultaneous responses) 21 JUDGE WALSTON: Just a little bit. 22 MR. RILEY: I'll leave it on just to see 23 if it will help. 24 At this time, Your Honor, the applicant 25 calls Dr. Lou Ross.</p>	<p style="text-align: right;">Page 29</p> <p>1 Q Am I correct that that had -- that prefiled 2 testimony has been submitted to all parties and the 3 ALJs and begins with Exhibit 1 and numbers through 4 Exhibit 48? 5 A I have been advised of that, yes. 6 Q And have you reviewed that testimony prior to 7 appearing here this morning? 8 A Yes, I have. 9 Q Are there any corrections that you need to 10 make to that testimony at this time? 11 A No. There are none. 12 Q Do you adopt the testimony found in Exhibit 1 13 and the exhibits pendent to Exhibit 1 numbered 2 14 through 48 as your testimony in this case? 15 A Yes, I do. 16 MR. RILEY: At this time, Your Honor, we 17 offer those exhibits, Applicant's Exhibit 1 through 18 48, into the record and offer Dr. Ross up for 19 cross-examination. 20 JUDGE WALSTON: Okay. And I believe 21 there were no objections filed to the testimony of 22 Dr. Ross or the exhibits. So TexCom Exhibits 1 23 through 48 are admitted. 24 (TexCom Exhibit Nos. 1 through 48 25 admitted)</p>

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<p style="text-align: right;">Page 30</p> <p>1 JUDGE WALSTON: And I believe, under the 2 order of cross-examination, Lone Star will go first. 3 MR. GERSHON: Yes. I will try to speak 4 up. 5 Let me know, ma'am, if we need to make 6 arrangements for me to get in front of the microphone. 7 THE REPORTER: Thank you. 8 CROSS-EXAMINATION 9 BY MR. GERSHON: 10 Q Good morning, Dr. Ross. Can I -- is it 11 Dr. Ross? Can I call you Dr. Ross? 12 A Call me Lou, call me Mr. Ross, Dr. Ross, 13 whichever you choose. 14 Q Okay. We've not met before. I'm Mike 15 Gershon. I represent the Lone Star Groundwater 16 District, as you've heard. 17 I have some questions to ask you related 18 to your company's, TexCom Gulf Disposal, projects. 19 Many of these questions will ask for "yes" or "no" 20 answers. I'll try to be as clear as possible. Let me 21 know if any of my questions are confusing -- I don't 22 mean to trip you up -- and I'll gladly clarify my 23 questions. 24 Do you have any questions about the 25 process?</p>	<p style="text-align: right;">Page 32</p> <p>1 Q Do you have a board of directors -- 2 A Yes. 3 Q -- with this company? 4 And who is on that Board? 5 A The same individuals that are members of the 6 board of the parent company, TexCom, Incorporated. 7 Q Okay. And who are those individuals? 8 A Mr. Brandon Brooks, Mr. William Shireman and 9 Mr. James Short. 10 Q Okay. So you do not serve on the Board? 11 A Yes, I do. Excuse me. I am also -- 12 Q You're also on the Board? 13 A -- a board member. Yes. Uh-huh. 14 Q Have you been the CEO and president of TexCom 15 since the time the applications were filed? 16 A Yes, I have. 17 Q Okay. Have you hired consultants to help you 18 with the applications? 19 A Yes. 20 Q And you've hired lawyers to help you with the 21 applications? 22 A Yes. 23 Q And your staffer, Allen Blanchard, helped, 24 too. Is that correct? 25 A Yes. He was one of the individuals who</p>
<p style="text-align: right;">Page 31</p> <p>1 A No, I do not. 2 Q Okay. Then let's begin. 3 In this case, it was apparent, through 4 discovery responses that you helped to prepare, 5 according to those responses, that -- there was a 6 statement made that you supervised the preparation of 7 the applications and that you have knowledge relevant 8 to the applications and the operation of the proposed 9 facility. Is that a fair statement? 10 A Yes, it is. 11 Q Now, you are the chief executive officer and 12 president of TexCom. Correct? 13 A Yes. 14 Q TexCom Gulf Disposal. 15 A Yes -- thank you. Yes, I am. 16 Q Okay. And when I refer to TexCom, I'm -- 17 unless I say otherwise, I'm referring to the 18 applicant, TexCom Gulf Disposal. I do have some 19 questions about your parent companies and affiliate 20 companies, but I'll make that clear as I -- 21 A That's fine. 22 Q -- ask questions. 23 Okay. So do you have ultimate 24 responsibility for the project at issue in this case? 25 A Yes, I do.</p>	<p style="text-align: right;">Page 33</p> <p>1 worked on the development of the application. 2 Q Okay. And was Mr. Blanchard an engineer? 3 A He is an environmental specialist, actually. 4 Q Okay. But he was not an engineer. Is that 5 correct? 6 A Unfortunately, I don't know the exact degree 7 that he has. I think he has a type of engineering, 8 but it's an environmental engineering. 9 Q Do you know whether he is -- was a licensed 10 engineer? 11 A Yes, he is. 12 Q He is. Okay. How significant a role did 13 Mr. Blanchard play in preparing the applications? 14 A Mr. Blanchard played a rather significant 15 role in overseeing the compilation of the surface 16 facility applications and coordinating the information 17 that went into that application. 18 Q Did he ultimately sign the application? Was 19 he the corporate representative that signed and 20 submitted -- 21 A He and -- 22 Q -- the applications? 23 A -- I both signed. Yes. 24 Q Okay. You signed the applications as well? 25 A Yes, I did.</p>

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<p style="text-align: right;">Page 34</p> <p>1 Q Both the surface facilities and the UIC 2 applications? 3 A Yes. I signed as the applicant 4 representative, not as the technical expert. 5 Q Okay. How confident are you that 6 Mr. Blanchard did his job in preparing the 7 applications? 8 A I'm confident. I was at the time, and I 9 still am. 10 Q Okay. And you mentioned that Mr. Blanchard 11 is no longer with the company. What happened with 12 Mr. Blanchard? 13 A Mr. Blanchard was a contract employee. We 14 hired him after we purchased the property in February 15 of 2005. And by agreement with the TCEQ, we were to 16 submit new applications promptly. We were aware of 17 Mr. Blanchard's credentials and prior work that he had 18 done in the environmental area, and we retained him as 19 a contract employee. 20 Q Is he still supporting the effort on the 21 applications? 22 A No. He's no longer working with us. 23 Q Okay. But, again, ultimately you are the 24 senior representative and -- 25 A That's correct.</p>	<p style="text-align: right;">Page 36</p> <p>1 TexCom, Incorporated, the -- 2 A Yes, I am. 3 Q -- parent company? 4 A Yes, I am. 5 Q What about TexCom Trading, LLC? 6 A Yes. I'd have to say that because that is 7 owned by TexCom, Incorporated. 8 Q And TexCom Operating, LLC? 9 A It's an inactive company, but, yes, that's 10 also part of TexCom, Incorporated. 11 Q How about TexCom Partners? 12 A Similar to TexCom Operating. They're -- 13 both were in the natural gas drilling and production. 14 Q Okay. Is it fair -- 15 A Sorry. 16 Q Did you have something to add? 17 A No. 18 Q Is it fair to say that biodiesel is the 19 parent company, TexCom's, core business? 20 A It's one of two core businesses. 21 JUDGE WALSTON: You're talking about 22 TexCom, Inc.? 23 MR. GERSHON: TexCom -- and I 24 mentioned -- I said the parent company. 25 JUDGE WALSTON: Okay.</p>
<p style="text-align: right;">Page 35</p> <p>1 Q -- you take ultimate responsibility for the 2 applications. Correct? 3 A Yes. 4 Q Now, your prefiled testimony states that 5 TexCom has the -- I'm going to quote your answer in 6 the discovery responses, "the know-how and experience 7 to operate and will operate the proposed facility in 8 accordance with TCEQ rules and the facilities' 9 permits," end quote. Is that a statement that you 10 stand behind? 11 A Yes. 12 Q Let's start with this "know-how and 13 experience." How many Class I wells does TexCom 14 currently have? 15 A None. 16 Q Can you please identify the employees whom 17 you propose to manage and oversee operations of the 18 plant? 19 A Oh, they don't exist yet. We will not hire a 20 staff to operate this facility unless and until we are 21 issued a permit. 22 Q How about your background, Dr. Ross? How 23 many Class I wells have you worked with? 24 A None. Other than this, of course. 25 Q Now, Dr. Ross, are you also the president of</p>	<p style="text-align: right;">Page 37</p> <p>1 MR. GERSHON: TexCom, Inc., the parent 2 company. 3 JUDGE WALSTON: Okay. 4 Q (By Mr. Gershon) And it's one of two core 5 businesses, the second being -- 6 A Waste disposal. 7 Q Dr. Ross, who at TexCom Gulf Disposal -- 8 we're back to the applicant -- is responsible for 9 filing reports and other regulatory requirements? 10 A I handled that responsibility until recently, 11 and we have added a new individual to our staff who's 12 now taking over that function for me. 13 Q And is it your position that you and your 14 employees are very familiar with TCEQ regulations and 15 that you will -- you have the ability to comply with 16 those regulations? 17 A Certainly with respect to operation of Class 18 I wells, yes, we are. 19 Q Did you or any of your other employees not 20 know about the reports that were due to be filed -- on 21 this particular site we're talking about that you've 22 applied for, did you not know, did your employees not 23 know about the reports that were due in 2005 through 24 the end of 2006? 25 A Those initial reports were filed after the</p>

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<p style="text-align: right;">Page 38</p> <p>1 application was in place by Mr. Blanchard while he was 2 still with us. When he no longer was working for the 3 company, I took over that responsibility. There were 4 several reports that were delinquent in submission, 5 and I take responsibility for that. 6 MR. GERSHON: Your Honors, if I could 7 approach the witness. I'd like to -- 8 JUDGE WALSTON: Sure. 9 Q (By Mr. Gershon) Let the record reflect I'm 10 handing Dr. Ross a correspondence. 11 Dr. Ross, if you could, take a look at 12 that. 13 (Brief Pause) 14 Q (By Mr. Gershon) Dr. Ross, are you familiar 15 with the document I've just handed you? 16 A Yes, I am. 17 Q Is it a letter addressed to you from the 18 Texas Commission on Environmental Quality? 19 A Yes. 20 Q What is this letter? What does it 21 constitute? 22 A This letter is a result of an 23 investigation -- a standard, annual investigation made 24 by the TCEQ for disposal wells of this type. 25 Q Does the correspondence reflect that there</p>	<p style="text-align: right;">Page 40</p> <p>1 Permits Division and the preliminary judgment from the 2 TCEQ came through in September of 2006. If -- in 3 normal circumstances, an application of this type for 4 an underground injection control well is submitted -- 5 the well does not exist. So the applicant waits until 6 the permit is issued before he actually drills and 7 puts the well into operation. 8 In this instance, because the well was 9 already in existence for several years, as was 10 mentioned in the opening comments, and because it had 11 been previously permitted by the State agency, the 12 TCEQ required that we treat this well as if it were an 13 active well even though not one gallon of wastewater 14 had ever been injected into it. 15 The reason that we missed some of the 16 things we were supposed to do, such as putting up a 17 sign and painting the wellhead, all of which are, as 18 you must acknowledge, rather minor infractions, is 19 something that we missed because we were not paying 20 attention to the fact that we were being required by 21 the State to treat this as if it were an active well 22 site even though it was not. 23 Long answer, but that's the 24 circumstance. 25 Q How many times did TexCom receive other --</p>
<p style="text-align: right;">Page 39</p> <p>1 were -- well, the words of the letter itself, 2 "Outstanding Alleged Violations"? 3 A Yes, it does. 4 Q And it relates to the site of your proposed 5 project? 6 A Yes, it does. 7 Q Now, you mentioned a couple of minutes ago 8 that you take ultimate responsibility for the failure 9 to timely submit reports, and you expect your 10 employees, and I suspect this new employee that you've 11 hired, to be familiar with the regulations and to 12 abide by regulations. Correct? 13 A Yes. 14 Q But is it not true that you and your other 15 employees who have known about all of the regulatory 16 requirements since you received this notice with a 17 long laundry list -- it looks like there are six, 18 seven issues that involve alleged violations. 19 A What was the question, please, Mr. Gershon? 20 Q Yeah. My question was: Is it not true -- 21 well, is it true that you-all, obviously, did not know 22 about all of the regulations since there were a number 23 of infractions? 24 A No. That's not true. Our permit application 25 was filed in August of 2005. The review by the</p>	<p style="text-align: right;">Page 41</p> <p>1 beyond this document in front of you, other 2 nonreporting notices from TCEQ? 3 A This is the only one of this type. 4 Q Okay. I'm going to try to do this 5 efficiently. I'm looking at your prefiled testimony. 6 I don't have a problem if you'd like me to hand you a 7 written copy of it, but I'm going to read it. 8 A I have it here. 9 Q So tell me if you believe it's accurate. 10 The question presented by your legal 11 counsel was: "Has TCEQ, on any other occasion, ever 12 notified TexCom of any potential non-compliance 13 involving the facility in Montgomery County?" 14 JUDGE WALSTON: Can you tell us where 15 you're reading from? 16 MR. GERSHON: I'm on Page 25, Line 19. 17 JUDGE WALSTON: And this is of Dr. Ross' 18 testimony? 19 MR. GERSHON: Dr. Ross' testimony. 20 That's correct. Page 25, Line 19. 21 JUDGE WALSTON: Okay. 22 Q (By Mr. Gershon) And, Dr. Ross, your answer 23 was: "TCEQ issued Non-reporting Notices dated 24 September 12, 2005, July 10, 2006, February 1, 2007 25 and April 27, 2006 indicating that it had not received</p>

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<p style="text-align: right;">Page 42</p> <p>1 particular Monthly Waste Receipt Summary reports. 2 TCEQ also issued a Reminder dated April 17, 2006 3 indicating that it had not received the 2005 Annual 4 Waste Summary report." That's your testimony. 5 Correct? 6 A Yes, it is. 7 MR. GERSHON: Your Honors, I would move 8 to admit the correspondence that I had introduced. 9 JUDGE WALSTON: Okay. We'll mark this 10 as Lone Star Exhibit 1. 11 MR. GERSHON: Exhibit 16. 12 JUDGE WALSTON: Oh, you have a number? 13 Because mine was blank. What is it? 14 MR. GERSHON: It would be No. 16. 15 JUDGE WALSTON: No. 16. I'm sorry. 16 (LS/District Exhibit No. 16 marked) 17 MR. GERSHON: And I would have marked 18 it. It just depends on -- 19 JUDGE WALSTON: No problem. 20 MR. GERSHON: Some of our documents, I'm 21 not sure if we're going to use them. 22 JUDGE WALSTON: Is there any objection 23 to Lone Star Exhibit 16? 24 MR. RILEY: No objection. The applicant 25 refers to this in its testimony, prefiled.</p>	<p style="text-align: right;">Page 44</p> <p>1 A Because we don't have a permit, and there's 2 no facility there yet. 3 Q So is it fair to say that although you say 4 that your firm has the know-how, it has not hired any 5 employees who will report to the environmental 6 manager. Do I have that right? 7 A We have general know-how of how these 8 facilities are operated because some of our people in 9 our company have experience in oil and gas and 10 disposal of Class II oil and gas wastewater. And as 11 is pointed out, there's great similarity in how these 12 facilities operate in terms of injecting water into 13 subsurface wells. 14 Q Are Class II wells regulated by the TCEQ? 15 A No. 16 Q Let me talk about some of the testimony -- 17 additional testimony you have, and I'm going to quote 18 it, please. You know, I'll tell you when I begin to 19 quote, end of quote. Tell me if I have it wrong. 20 In your prefiled testimony, you claim 21 that TexCom is, quote, "committed to making the 22 necessary investments in capital and people to provide 23 that service in the most safe and environmentally 24 responsible manner." 25 JUDGE WALSTON: Can you tell us where</p>
<p style="text-align: right;">Page 43</p> <p>1 JUDGE WALSTON: Okay. Then Lone Star 2 Exhibit 16 is admitted. 3 (LS/District Exhibit No. 16 admitted) 4 Q (By Mr. Gershon) Dr. Ross, let's talk 5 about -- again, in talking about your alleged know-how 6 and experience in TexCom, let's talk about the 7 employees who will report in to your environmental 8 manager. How many employees will be working at the 9 proposed site? 10 A The initial staff will be approximately 11 seven. 12 Q And it's my understanding from your 13 application that there will be around-the-clock, i.e., 14 24-hour-a-day attendance on the site. Is that 15 correct? 16 A There will be someone in attendance at the 17 site, although it will not be in operation receiving 18 truck loads of wastewater around the clock. 19 Q Okay. Is it true that you have not yet hired 20 the employees who will work on site? 21 A That is true. 22 Q Do you have any employees in your employ who 23 will work on site? 24 A Not on site, no. 25 Q And why is that?</p>	<p style="text-align: right;">Page 45</p> <p>1 you're reading from? 2 MR. GERSHON: I believe I'm on Page -- I 3 think it's Page 6. 4 A It's at the end. 5 MR. GERSHON: Yeah, Page 6, Lines 2 6 through 5. 7 JUDGE WALSTON: Okay. Thank you. 8 Q (By Mr. Gershon) Is that a statement that 9 you still stand behind? 10 A Yes. 11 Q Let's talk about that statement a little bit. 12 Now, we've just talked about where you 13 are in terms of your staffing up. Let's talk about 14 your investment in capital. You claim that TexCom's 15 acquisition -- and I'm still on Page 6 here if you 16 want to refer back to your testimony at any point, but 17 you claim in your testimony that TexCom's acquisition 18 of the existing well is proof of TexCom's commitment 19 to making necessary investments. 20 Let me just ask: How much did that well 21 and underlying site cost? 22 A Approximately \$400,000. 23 Q How much have you estimated that it would 24 cost to build each of the other three wells that 25 you're proposing to be permitted in this application?</p>

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<p>1 A Each well to the same depth, at 6,800 to</p> <p>2 7,000 feet, if drilled today, would be about a million</p> <p>3 and a half dollars. Perhaps two.</p> <p>4 JUDGE EGAN: Is that for all three?</p> <p>5 A No. Each well.</p> <p>6 JUDGE EGAN: Each.</p> <p>7 A Each well.</p> <p>8 Q (By Mr. Gershon) What financial resources</p> <p>9 does your company have to construct even that second</p> <p>10 well?</p> <p>11 A We have brought in a new investor to infuse</p> <p>12 capital into what we're referring to as TexCom --</p> <p>13 TexCom Gulf Disposal, LLC, and that will provide the</p> <p>14 additional capital we need to complete the process of</p> <p>15 obtaining the permit and to build up the operating</p> <p>16 facility.</p> <p>17 Q And who is that investor?</p> <p>18 A It's a company from Oklahoma.</p> <p>19 Q By the name of?</p> <p>20 A By the name of Foxborough Energy Company,</p> <p>21 LLC.</p> <p>22 Q I hear you say "LLC." Is that a Texas</p> <p>23 company -- I mean, it's a company in Oklahoma, but is</p> <p>24 that an LLC?</p> <p>25 A No. It's an Oklahoma company.</p>	<p>1 A The transaction has been negotiated, but the</p> <p>2 actual purchase of the membership interest has not</p> <p>3 closed yet because the documentation is being prepared</p> <p>4 by our attorneys.</p> <p>5 Q Does TexCom intend to raise additional</p> <p>6 capital through more stock issuances?</p> <p>7 A No.</p> <p>8 Q Now let me switch gears for just a moment.</p> <p>9 Dr. Ross, based on the capacity of</p> <p>10 350 gallons per minute of wastewater being injected</p> <p>11 into the well -- do I have that correct that --</p> <p>12 A Yes, you do.</p> <p>13 Q -- that your company is asking for a maximum</p> <p>14 capacity of 350 gallons per minute?</p> <p>15 You don't need but one well to inject at</p> <p>16 that capacity. Is that correct?</p> <p>17 A If the well can operate at that rate, if it</p> <p>18 accepts water at that rate, we would only need one</p> <p>19 well.</p> <p>20 Q Do you know whether that well -- I mean, have</p> <p>21 your experts advised you that that well could accept</p> <p>22 all of the waste stream at that rate?</p> <p>23 A It's calculated at this point, based on the</p> <p>24 penetrability and the porosity of the formation.</p> <p>25 Q Is it true that you would have to amend your</p>
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<p>1 Q Okay.</p> <p>2 A But they're investing in TexCom Gulf</p> <p>3 Disposal, LLC.</p> <p>4 Q Are there any contracts between TexCom and --</p> <p>5 I'm going to call them Foxborough, at this point that</p> <p>6 provide for how this investment will work?</p> <p>7 A There's a purchase and sale agreement being</p> <p>8 prepared now.</p> <p>9 Q A purchase and sale agreement?</p> <p>10 A They're buying interest -- a membership</p> <p>11 interest into TexCom.</p> <p>12 Q Okay. So will there be an issuance of stock</p> <p>13 to Foxborough? Will they be shareholders?</p> <p>14 A LLCs have members, as you might know --</p> <p>15 Q Yes.</p> <p>16 A -- membership interest. They will be buying</p> <p>17 a membership interest in the LLC.</p> <p>18 Q Understood.</p> <p>19 A Sometimes called shareholders.</p> <p>20 Q Will Foxborough be extending a loan to</p> <p>21 TexCom?</p> <p>22 A No.</p> <p>23 Q And you say that this arrangement with</p> <p>24 Foxborough is under work. In other words, it's in</p> <p>25 negotiation.</p>	<p>1 permit to seek additional capacity beyond 350 gallons</p> <p>2 per minute if you were to use -- well, if you were to</p> <p>3 use -- well, if you were to need more capacity?</p> <p>4 A No. The application that we have filed with</p> <p>5 the state agency is for a maximum disposal of</p> <p>6 350 million gallons a minute at the facility,</p> <p>7 independent of whether there's four wells or 100 wells</p> <p>8 in operation.</p> <p>9 Q Right. And I'm sorry. Perhaps I wasn't</p> <p>10 clear in my question.</p> <p>11 If you need more capacity beyond</p> <p>12 350 gallons per minute, you would have to file an</p> <p>13 application for amendment at TCEQ. Is that correct?</p> <p>14 A Yes. It would require filing of a new</p> <p>15 application.</p> <p>16 Q Okay. And is your estimate of a million and</p> <p>17 a half to two million dollars per well, would it be</p> <p>18 fair to say that was an incredibly attractive economic</p> <p>19 opportunity for TexCom to acquire the existing well</p> <p>20 for \$400,000?</p> <p>21 A Yes.</p> <p>22 Q Would you make -- would TexCom make the</p> <p>23 investment in capital in the other three wells if TCEQ</p> <p>24 ultimately decided that you were not authorized to use</p> <p>25 the existing well?</p>

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THURSDAY, DECEMBER 13, 2007
VOLUME 2

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<p>1 A No.</p> <p>2 JUDGE WALSTON: I didn't quite catch</p> <p>3 your question, Mr. Gershon.</p> <p>4 MR. GERSHON: The question was: Would</p> <p>5 TexCom make the investment in capital in the other</p> <p>6 three wells if TCEQ ultimately decided that TexCom</p> <p>7 wasn't authorized to use the existing well?</p> <p>8 JUDGE WALSTON: Okay. Thank you.</p> <p>9 And your answer was "No"?</p> <p>10 A That's right.</p> <p>11 Q (By Mr. Gershon) Dr. Ross, you emphasize how</p> <p>12 important it is that the existing well was previously</p> <p>13 permitted. You talk in your prefiled testimony about</p> <p>14 this existing well, the opportunity to have an</p> <p>15 existing well that had been permitted in the past.</p> <p>16 Let me ask you some questions about that.</p> <p>17 What is relevant to you about -- and</p> <p>18 TexCom, about the fact that this existing well had</p> <p>19 been previously permitted?</p> <p>20 A It caused us to conclude that the state</p> <p>21 agency, the TNRCC at the time and then later the TCEQ,</p> <p>22 considered this site, based on the geology, the</p> <p>23 hydrogeology, the penetrability, viscosity, and all</p> <p>24 the other key variables that are included in the</p> <p>25 determination of the suitability of the site for an</p>	<p>1 issued?</p> <p>2 A No.</p> <p>3 Q Well, let me be clear. It was true that --</p> <p>4 A Oh, okay.</p> <p>5 Q Let me just -- for the purposes of the</p> <p>6 record, let me make -- get the point a little clear.</p> <p>7 The predecessor owner of this existing</p> <p>8 well was permitted to drill this well -- correct --</p> <p>9 A Yes. That's correct.</p> <p>10 Q -- the existing well?</p> <p>11 The predecessor then drilled the well --</p> <p>12 A That's correct.</p> <p>13 Q -- under those permits?</p> <p>14 A They had obtained the permit, and based on</p> <p>15 that, they had completed the well. And my prior</p> <p>16 statement to you was incorrect.</p> <p>17 Q Your prior statement was incorrect?</p> <p>18 A You said "Is it my understanding that the</p> <p>19 well completion report is done after the permit is</p> <p>20 issued," and I said "No." Obviously, it is.</p> <p>21 Q Oh, sure. Sure. Well --</p> <p>22 A The permit is issued first. Based on that,</p> <p>23 the operator can drill and complete the well, and the</p> <p>24 completion report is issued subsequent to that.</p> <p>25 Q Okay. And so there was a completion report</p>
Page 51	Page 53
<p>1 underground injection control well, that this site was</p> <p>2 satisfactory, suitable, technically appropriate. In</p> <p>3 other words, it was an acceptable site for issuance of</p> <p>4 a permit for this type of Class I well.</p> <p>5 Q Dr. Ross, is it your understanding that if</p> <p>6 the permits were issued today, that you would have</p> <p>7 permission to operate tomorrow?</p> <p>8 A Yes.</p> <p>9 Q Dr. Ross, are you familiar with a document</p> <p>10 called a completion -- a well completion report?</p> <p>11 A Yes.</p> <p>12 Q Was that report -- well, was there a</p> <p>13 completion report prepared on the existing well?</p> <p>14 A Yes.</p> <p>15 Q Was it prepared by TexCom or your</p> <p>16 consultants?</p> <p>17 A No. It was prepared by Nabors Drilling who</p> <p>18 did the drilling and completion, and by the prior</p> <p>19 owner of the property.</p> <p>20 Q It's kind of obvious -- probably obvious to</p> <p>21 you and me when that report is done, but can you tell,</p> <p>22 for the record, you know, when is the well completion</p> <p>23 report prepared?</p> <p>24 A After the well is completed.</p> <p>25 Q And is it prepared after the permits are</p>	<p>1 that was prepared by the old permit holder for the</p> <p>2 permit that expired that relates to this existing</p> <p>3 well. Correct?</p> <p>4 A Correct.</p> <p>5 Q Okay. And then a completion -- okay -- a</p> <p>6 completion report was prepared. Was that completion</p> <p>7 report approved by TCEQ? Do you know?</p> <p>8 A To my knowledge, yes, it was.</p> <p>9 Q What do you know about the conclusions in</p> <p>10 that completion report -- well, let me focus on that.</p> <p>11 Was that -- there's a lot of information on that</p> <p>12 report.</p> <p>13 A Uh-huh.</p> <p>14 Q Did that report conclude that the project was</p> <p>15 viable and that there would be -- and did it raise --</p> <p>16 or did it raise any red flags and some concerns about</p> <p>17 how the waste streams, you know, might interact with</p> <p>18 the reservoir?</p> <p>19 A I'm not aware that it raised any concerns.</p> <p>20 Q Is it your belief that the completion report</p> <p>21 confirmed the assumptions by that applicant -- by that</p> <p>22 former permit holder?</p> <p>23 A Would you state that again, please?</p> <p>24 Q Is it your understanding that the completion</p> <p>25 report ultimately confirmed the assumptions made by</p>

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<p>1 the former permit holder?</p> <p>2 A What assumptions would those be, Mr. Gershon?</p> <p>3 Q Well, let me -- well, let me withdraw that</p> <p>4 question for just a moment. Let me table that</p> <p>5 question.</p> <p>6 Your company -- did your company</p> <p>7 undertake due diligence prior to acquiring the well --</p> <p>8 A Yes.</p> <p>9 Q -- site?</p> <p>10 Okay. As part of that due diligence,</p> <p>11 did your consultants or your employees review the</p> <p>12 permit that had been -- that had expired and the</p> <p>13 completion report?</p> <p>14 A The permit, but we did not have possession of</p> <p>15 the completion report at the time we were evaluating</p> <p>16 purchase of a land. Is that what you're asking me?</p> <p>17 Q Yes.</p> <p>18 A No.</p> <p>19 Q So let me make sure I'm clear. Your</p> <p>20 consultants and your team did not focus on the</p> <p>21 completion report when you were doing your due</p> <p>22 diligence and making the decision whether to acquire</p> <p>23 this site. Correct?</p> <p>24 A That's correct.</p> <p>25 Q Okay. Are you aware that the existing well</p>	<p>1 A Yes.</p> <p>2 Q How are you compensating Coastal Caverns and</p> <p>3 Mr. Brassow? Is it on an hourly rate?</p> <p>4 A Yes, it was.</p> <p>5 Q You mentioned "was." Let me step back and</p> <p>6 ask: What was the scope of work that you laid out for</p> <p>7 Coastal Caverns to support the preparation of the</p> <p>8 application?</p> <p>9 A The work was laid out to the individual,</p> <p>10 Mr. Brassow. Although he worked for Coastal Caverns,</p> <p>11 it was -- he was the person we retained. And his</p> <p>12 responsibility had to do with designing the surface</p> <p>13 facility, identifying the equipment, how it was to be</p> <p>14 assembled and operated.</p> <p>15 Q Now, you mentioned -- you said -- when I</p> <p>16 asked you about how you're compensating him, you said,</p> <p>17 "Well, we're compensating on an hourly rate. That's</p> <p>18 how we did it." Is he currently under agreement,</p> <p>19 under contract to work for TexCom?</p> <p>20 A He is working for us now in support of this</p> <p>21 hearing.</p> <p>22 Q Are you compensating him for that work?</p> <p>23 A Yes, hourly.</p> <p>24 Q Okay. So when you say that you were --</p> <p>25 A I thought your question had to do with his</p>
Page 55	Page 57
<p>1 was not protested back in the early 1990s when it was</p> <p>2 first permitted?</p> <p>3 A That's been my understanding, that there was</p> <p>4 no protest or objection to it.</p> <p>5 Q Are you aware that there was much less</p> <p>6 residential and commercial development in the Conroe</p> <p>7 area back when it was permitted?</p> <p>8 A Not firsthand, I'm not aware. No.</p> <p>9 Q Are you aware that the Lone Star Groundwater</p> <p>10 Conservation District, my client, was not around, was</p> <p>11 not created by the Legislature at the time that the</p> <p>12 previous permit holder --</p> <p>13 A I am aware of that today. Yes.</p> <p>14 Q Let's talk more about TexCom's know-how and</p> <p>15 experience. Let's hear more about your team of</p> <p>16 consultants.</p> <p>17 Is it fair to say that when you selected</p> <p>18 your team of consultants you looked for consultants</p> <p>19 with experience and knowledge with commercial</p> <p>20 industrial solid waste applications and UIC wells?</p> <p>21 A Yes.</p> <p>22 Q You consider Mr. Brassow with Coastal Caverns</p> <p>23 to be -- as you say in your prefiled testimony, one of</p> <p>24 the most respected names in the field. Is that</p> <p>25 correct?</p>	<p>1 involvement in preparing the application in the</p> <p>2 surface facility; so I said, "We were compensating him</p> <p>3 hourly at that time."</p> <p>4 Q Sure. Fair enough. If your permits were</p> <p>5 issued, would Mr. Brassow continue to work for TexCom?</p> <p>6 A No.</p> <p>7 Q So the only purpose of Mr. Brassow's, you</p> <p>8 know, background and his consulting is to prepare the</p> <p>9 application?</p> <p>10 A That's correct.</p> <p>11 Q And to work with you in testifying in this</p> <p>12 case?</p> <p>13 A That's correct.</p> <p>14 Q How did you come to know about Coastal</p> <p>15 Caverns?</p> <p>16 A Through third parties.</p> <p>17 Q And just to be clear, when I'm talking about</p> <p>18 Coastal Caverns, you know, Mr. Brassow is affiliated</p> <p>19 with Coastal Caverns. Correct?</p> <p>20 A Yes, he is.</p> <p>21 Q Do you know how many employees they have?</p> <p>22 A No, I do not.</p> <p>23 Q Do you know whether he's the president of</p> <p>24 Coastal Caverns?</p> <p>25 A I believe he is. Yes.</p>

15 (Pages 54 to 57)

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<p>1 Q Okay. Are you familiar with Coastal Caverns</p> <p>2 Roman Numeral Number I, LP?</p> <p>3 A No.</p> <p>4 Q How about Coastal Caverns, Incorporated?</p> <p>5 A I believe that's the name of the company for</p> <p>6 which Mr. Brassow now works and is president of.</p> <p>7 Q Are you familiar with Coastal Caverns UK,</p> <p>8 Ltd.?</p> <p>9 A Yes, I am.</p> <p>10 Q And what is your familiarity with that</p> <p>11 company?</p> <p>12 A Our company, TexCom, Incorporated, the parent</p> <p>13 of the applicant, worked jointly with Coastal Caverns</p> <p>14 on the development of the UK disposal project known as</p> <p>15 Coastal Caverns UK.</p> <p>16 Q Okay. When you say you worked together</p> <p>17 jointly, was it a relationship where both companies</p> <p>18 had an equity interest in the project?</p> <p>19 A Yes.</p> <p>20 Q Does Coastal Caverns have any equity interest</p> <p>21 in this project?</p> <p>22 A No.</p> <p>23 Q How familiar are you with Mr. Brassow's</p> <p>24 background, his experience on these types of projects?</p> <p>25 Do you have some experience -- I mean, do you have</p>	<p>1 A No, I am not.</p> <p>2 Q Did you know that he testified in that case</p> <p>3 that he had personal knowledge of contamination of the</p> <p>4 aquifers several years before it was brought to the</p> <p>5 attention of authorities?</p> <p>6 A No, I did not.</p> <p>7 Q And did you know that in that case the</p> <p>8 company ultimately paid a \$3 million fine in large</p> <p>9 part by Mr. Brassow's admission of that contamination</p> <p>10 of an aquifer?</p> <p>11 A No.</p> <p>12 MR. GERSHON: If I could approach the</p> <p>13 witness.</p> <p>14 JUDGE WALSTON: Yes.</p> <p>15 JUDGE EGAN: Is this 17?</p> <p>16 MR. GERSHON: This would be 17.</p> <p>17 Correct.</p> <p>18 (LS/District Exhibit No. 17 marked)</p> <p>19 Q (By Mr. Gershon) Dr. Ross, I'm handing you a</p> <p>20 document that comes from the Texas Board of</p> <p>21 Professional Engineers. Really all that I believe to</p> <p>22 be relevant is that first paragraph on the first page.</p> <p>23 You're welcome to read further Page 2 toward the end,</p> <p>24 but I'm really only going to be focusing on the first</p> <p>25 paragraph.</p>
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<p>1 some knowledge of his background?</p> <p>2 A Yes. I know that he is considered an expert</p> <p>3 in salt and in developing of salt caverns and in the</p> <p>4 use of salt caverns for storage of hydrocarbons and in</p> <p>5 the use of salt caverns for disposal of waste. I know</p> <p>6 that he's been involved in other projects involving</p> <p>7 filing applications for disposal of waste in salt</p> <p>8 caverns.</p> <p>9 Q And, again, in your testimony, do I have it</p> <p>10 right that you consider him to be, quote, "one of the</p> <p>11 most respected names in the field," end quote?</p> <p>12 A As far as I know, yes.</p> <p>13 Q Did you know that he has worked on at least</p> <p>14 one other solid waste disposal site that involves deep</p> <p>15 injection wells?</p> <p>16 A No. I'm aware of his work on solid waste</p> <p>17 disposal in salt caverns.</p> <p>18 Q Did you know that he was an engineering</p> <p>19 consultant for a company that was proven in a court of</p> <p>20 law to have polluted groundwater formation at its</p> <p>21 solid waste injection disposal site?</p> <p>22 A No, I'm not.</p> <p>23 Q So you're not familiar with that reported</p> <p>24 decision that came out of the Houston Court of</p> <p>25 Appeals, Cite 853 S.W. 2d 82 in 1993?</p>	<p>1 (Brief Pause)</p> <p>2 Q (By Mr. Gershon) Have you had an opportunity</p> <p>3 to review that first paragraph?</p> <p>4 A Yes, I have.</p> <p>5 Q Does it appear that -- from this document,</p> <p>6 that Mr. Brassow's engineering license has been</p> <p>7 suspended by the Board of Professional -- by the Board</p> <p>8 of Professional Engineers?</p> <p>9 A It says that. Yes.</p> <p>10 Q Were you aware of that?</p> <p>11 A No, I was not.</p> <p>12 Q Did you know that he paid a penalty for his</p> <p>13 misconduct?</p> <p>14 A No.</p> <p>15 Q Did you know that he -- that the trouble that</p> <p>16 he got involved in -- did you know that the trouble</p> <p>17 that he got into involved work he was doing for</p> <p>18 clients before the TNRCC, TCEQ's predecessor?</p> <p>19 A No.</p> <p>20 MR. GERSHON: Your Honors, I would move</p> <p>21 to admit this.</p> <p>22 JUDGE WALSTON: This is Exhibit 17?</p> <p>23 MR. GERSHON: Yes.</p> <p>24 JUDGE WALSTON: Okay. Any objection to</p> <p>25 Lone Star Exhibit 17?</p>

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<p style="text-align: right;">Page 62</p> <p>1 MR. RILEY: Well, I guess I would accept 2 counsel's representation that this is a public record 3 that I can verify, but, typically, it would be 4 submitted as a certified record -- certified public 5 record, since the witness certainly can't authenticate 6 the document. However, with that caveat, that after I 7 have verified it and I may renew an objection at some 8 future point -- but at this point, I have no 9 objection.</p> <p>10 JUDGE WALSTON: Okay. Then Exhibit Lone 11 Star 17 will be admitted subject to verification. 12 (LS/District Exhibit No. 17 admitted)</p> <p>13 Q (By Mr. Gershon) Let me switch gears. 14 Dr. Ross, you say in your prefiled 15 testimony that your written policies -- that TexCom's 16 written policies will help to ensure, quote, "safe and 17 responsible operation," end quote, of the facilities. 18 Do I have that right? 19 A Yes. 20 Q Did you prepare the policies? 21 A No. 22 Q Who did prepare the policies? 23 A Mr. Blanchard. 24 Q Was it patterned after any other company's 25 policies to your knowledge?</p>	<p style="text-align: right;">Page 64</p> <p>1 A Yes, and it will be posted at the operating 2 site as well. 3 Q Okay. And has there been actual in-house 4 training of, I guess, your current employee, your 5 environmental manager to this point? 6 A Would you state that again, please? 7 Q Yeah. Let me -- how long has your current 8 environmental manager been working with TexCom? 9 A To whom are you referring? 10 Q TexCom's -- you had mentioned earlier -- 11 about 30 minutes ago, that you had just hired a new 12 environmental -- 13 A Yes. 14 Q -- manager. How long has that individual 15 been with TexCom? 16 A About four months. 17 Q Okay. And what is that individual's name? 18 A Matthew McEneny. 19 Q Okay. Are you aware of any -- or have you 20 put him through any training on Class I wells? 21 A We have not put him through training on that 22 individually. He already has it. 23 Q There's some documents that you produced 24 through your legal counsel in this case, part of the 25 discovery process, and I would like to get those into</p>
<p style="text-align: right;">Page 63</p> <p>1 A Yes. I'm sure it was, because he had done 2 that for other clients and other companies earlier. 3 Q Has your board of directors adopted the 4 policy? 5 A Yes, we have. 6 Q Formally, in a board -- 7 A Yes. 8 Q -- meeting? 9 Is this policy posted on the walls at 10 your office? 11 A No, it's not. 12 Q Do you have employee handbooks? 13 A No. 14 Q In what way do you make your employees aware 15 of this policy? 16 A By verbal communication. 17 Q Do you have -- 18 A By showing them copies of it when it was 19 issued. 20 Q At the time that you hire them? 21 A At the time that I signed that document. 22 Q Okay. And so, you know, bearing in mind that 23 you haven't hired any employees that work on site, is 24 it fair to say that as you hire them you'll make them 25 aware of the policy?</p>	<p style="text-align: right;">Page 65</p> <p>1 the record and ask you a couple of questions about 2 them. Bear with me for just a minute. 3 (LS/District Exhibit No. 18 marked) 4 Q (By Mr. Gershon) Dr. Ross, if you could, 5 take a moment and take a look at those documents and 6 see if you're familiar with those documents. They are 7 what we refer to as Bates labeled at the bottom. 8 They're Bates labeled to reflect a series of documents 9 that were produced through your legal counsel. 10 Dr. Ross, are you familiar with that 11 document? 12 A Yes. 13 Q Dr. Ross, did that come from your files, that 14 document? 15 A I think from the application. 16 Q From the application. Okay. Well -- 17 A It appears to me it came from the 18 application. 19 Q Let me just take a step back. Would you 20 identify that application for the record -- that 21 application -- that document. I'm sorry. Can you 22 identify the document in front of you? What is that 23 document? 24 JUDGE WALSTON: Lone Star Exhibit 18? 25 MR. GERSHON: It is --</p>

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<p style="text-align: right;">Page 66</p> <p>1 JUDGE WALSTON: That's what you're 2 asking him to identify? 3 MR. GERSHON: Yes. 4 A It's not identified specifically, but it 5 appears to me to be similar to the information that's 6 in the UIC application. 7 Q (By Mr. Gershon) And what type of 8 information does this document have in it? 9 A It has to do with porosity, penetrability and 10 the cone of influence, I think. 11 Q Are those issues that are relevant to 12 reservoir modeling? 13 A Yes, they are. That's why it's entitled, on 14 the first page, "Reservoir Modeling." 15 Q Sure. Was this prepared by your consultants? 16 A Yes. 17 Q Was it prepared by ALL Consulting? 18 A Yes, it was. 19 Q Does it reflect various best and worst-case 20 scenarios running different types of models, or would 21 you prefer that I visit with your experts about this 22 on their cross-examination? 23 A I would prefer that. Yes. 24 Q Okay. That's fair. 25 MR. GERSHON: Your Honors, I would move</p>	<p style="text-align: right;">Page 68</p> <p>1 disposal facility in Conroe. Is that a statement that 2 you made? 3 A Yes. 4 Q Did you undertake any market analysis in 5 making that determination? 6 A Yes. 7 Q Did that analysis take into consideration any 8 other non-hazardous industrial solid waste facilities 9 in the region and around the state? 10 A In general terms, yes. 11 Q What about hazardous solid waste facilities 12 in the region and around the state, did you-all look 13 at that at -- 14 A No. We did not look at hazardous waste 15 disposal sites in our evaluation. 16 Q Do you know -- I mean, do you know whether 17 it's true that hazardous waste sites can also receive 18 and dispose of non-hazardous waste? 19 A I am not expert in that, but I believe it is 20 true. It's only my opinion. 21 Q Okay. Dr. Ross, have you entered any 22 contracts with any potential customers who would have 23 waste for you to dispose of? 24 A No. 25 Q Have you entered into any negotiations with</p>
<p style="text-align: right;">Page 67</p> <p>1 for admission of District's Exhibit 18. 2 JUDGE WALSTON: Any objection? 3 MR. RILEY: I've never seen it before 4 this morning in this form. It's not to say that the 5 witness' testimony is inaccurate, but I need to do a 6 comparison to the portion of the application -- what 7 I'm trying to say is: This may be a draft. It may be 8 an incomplete report. But, again, subject to our 9 verification, we have no objection. 10 JUDGE WALSTON: Okay. Lone Star Exhibit 11 18 is admitted subject to verification by the 12 applicant. 13 (LS/District Exhibit No. 18 admitted) 14 JUDGE WALSTON: And, obviously, 15 Mr. Riley, you'll let us know if you perceive some 16 problem with it. 17 MR. RILEY: Yes, sir. Thank you. 18 Q (By Mr. Gershon) Okay. Let me move on then. 19 I'll reserve questions about that document for your 20 expert. 21 Dr. Ross, in your testimony -- I'm going 22 to refer to Page 5, if you'd like to refer back to 23 it -- you claim that there is a need for the services 24 -- that there's a need for the services of a 25 commercial non-hazardous industrial solid waste</p>	<p style="text-align: right;">Page 69</p> <p>1 potential customers yet? 2 A No. 3 Q Could you identify companies targeted within 4 the immediate area, within the Conroe area, that would 5 be potential customers? 6 A Yes. 7 Q Would you identify -- list those for me, 8 please. 9 A The most outstanding would be Huntsman 10 Chemical on Jefferson Chemical Road. 11 Q And you refer to them as the most 12 outstanding. Have there been any discussions with 13 Huntsman Chemical? 14 A Yes, back in 2003, two years before we bought 15 the property. 16 Q That was the last time you had discussion 17 with Huntsman Chemical? 18 A Yes. 19 Q Do you know how they currently dispose of 20 their waste? 21 A Yes. 22 Q How is that? 23 A They have the wastewater removed from the 24 site by truck and it's brought to licensed injection 25 well sites in the state.</p>

18 (Pages 66 to 69)

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<p style="text-align: right;">Page 70</p> <p>1 Q Do you know where those sites are that they 2 have them disposed? 3 A Yes. 4 Q Where are those? 5 A One of those is Newpark Resources in Winnie 6 or Big Hill, Texas. It's in the Beaumont/Port Arthur 7 area. The other is a company called Environmental 8 Processing Systems, LLC, which is in -- near Liberty, 9 in Liberty County. 10 Q In Liberty County? I'm sorry. 11 A In Liberty County. 12 Q Are you aware whether they have contracts 13 with those facilities to dispose of the waste? 14 A I don't know the details, but I assume they 15 have contracts, yes. 16 Q Is it possible they own those facilities? 17 I'm not trying to tick you. I just don't -- I'm not 18 aware of it. 19 A Oh, no. It's not possible. That they own 20 the disposal well sites? 21 Q Yes. 22 A No, it's not. 23 Q So they're third-party sites that they 24 dispose of the waste? 25 A That's correct.</p>	<p style="text-align: right;">Page 72</p> <p>1 we have. 2 Q What -- didn't you say that list was included 3 in your application? 4 A Say that again, please. 5 Q Was there a list included in your application 6 of potential customers? 7 A Yes. 8 Q And that application was submitted two years 9 ago. Right? 10 A Yes. 11 Q And so who -- Mr. McEneny didn't work for you 12 at that time. Right? 13 A I'm talking about two different lists, 14 Mr. Gershon. 15 Q Okay. Tell me about -- 16 A The list that was -- 17 Q -- the two lists. 18 A -- in the application itself in the surface 19 facility application is rather short. There's 20 probably 25 or 30 names there. That came from 21 published TCEQ records that show the generators and 22 the disposers of this type of waste on an annual 23 basis. Since we hadn't done independent market 24 research, we lifted that list of generators of 25 commercially disposed Class I wastewater from the TCEQ</p>
<p style="text-align: right;">Page 71</p> <p>1 Q Do you know whether they have maxed out -- 2 for lack of a better term, on the capacity of those 3 sites to receive their waste? 4 A The disposal companies? 5 Q Yes. 6 A No, I do not know. 7 Q Are there -- now, you mentioned Huntsman 8 Chemical was the most outstanding. What other 9 companies in the immediate Conroe area are potential 10 customers? 11 A Well, I can't name them individually, but by 12 looking in the TCEQ records, we have a list of 13 multiple pages of probably a couple of hundred 14 generators of this type of waste in Montgomery County. 15 They're all smaller than the Huntsman Chemical plant. 16 That's why I referred to them as the most outstanding, 17 because of the sheer volume of water which is disposed 18 from that plant. 19 Q How did you generate that list? 20 A Came from the TCEQ's records. 21 Q What TCEQ records? 22 A I don't know specifically. I can't identify 23 them. I did not do it personally. 24 Q Who prepared the list? 25 A Mr. McEneny supervised it, the new employee</p>	<p style="text-align: right;">Page 73</p> <p>1 records from the year 2004 and included that in the 2 application that we were preparing in the second 3 quarter of 2005. 4 Q Okay. And who prepared that list? That 5 would have been Mr. Blanchard? 6 A Yes. That would have been Mr. Blanchard. 7 Q Okay. And it's -- 8 A The other list I'm referring to was more 9 recently done by Mr. McEneny. 10 JUDGE WALSTON: Dr. Ross and 11 Mr. Gershon, you-all are beginning to talk over each 12 other a little bit. Make sure one finishes before the 13 other one begins. It's hard on the court reporter. 14 MR. GERSHON: Okay. 15 Q (By Mr. Gershon) Mr. McEneny prepared the 16 second list recently. 17 A Yes. 18 Q Is that correct? 19 A Yes. 20 Q And do you know for a fact that those 21 companies are all located within the immediate Conroe 22 area? Not just Montgomery County, but in the 23 immediate Conroe area. 24 A No. Mr. McEneny told me the list consists of 25 the generators of this type of waste from Montgomery</p>

19 (Pages 70 to 73)

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<p style="text-align: right;">Page 74</p> <p>1 County.</p> <p>2 Q Are there any companies on that list that are</p> <p>3 outside of Montgomery County?</p> <p>4 A Evidently not, to my knowledge. He told me</p> <p>5 the list consisted of generators that reside in</p> <p>6 Montgomery County.</p> <p>7 Q Fair enough. And you've had no contact with</p> <p>8 any of the companies on that list?</p> <p>9 A No, we have not.</p> <p>10 Q Okay. Let me switch gears.</p> <p>11 You testify -- you testify about other</p> <p>12 environmental authorizations that are required to be</p> <p>13 fulfilled in doing your project -- authorizations</p> <p>14 beyond this application. That testimony is at Page</p> <p>15 7 -- Pages 7 and 8, if you'd like to refer to that</p> <p>16 testimony. That's the line of questions that I'd like</p> <p>17 to talk about, these other regulatory requirements.</p> <p>18 Are you qualified to talk about</p> <p>19 technical details about your surface water protection</p> <p>20 plan or is that something that would be better suited</p> <p>21 to address with Mr. Brassow?</p> <p>22 A It would be better suited to address with</p> <p>23 Mr. Brassow.</p> <p>24 Q Okay. What about engineering design of the</p> <p>25 facilities, is that something that Mr. Brassow can</p>	<p style="text-align: right;">Page 76</p> <p>1 opportunity to look at it and to question the witness</p> <p>2 at some point.</p> <p>3 MR. RILEY: I don't know -- we produced</p> <p>4 many thousands of pages of documents. It is equally</p> <p>5 possible that counsel overlooked it in the review of</p> <p>6 discovery materials, but we will work with counsel to</p> <p>7 make sure that he has an opportunity to see that.</p> <p>8 JUDGE WALSTON: Okay.</p> <p>9 Q (By Mr. Gershon) To your recollection, did</p> <p>10 the Railroad Commission turn around a response to your</p> <p>11 letter during the same week that you submitted the</p> <p>12 letter?</p> <p>13 A Oh. I can't recall that. No.</p> <p>14 Q Do you recall whether the turnaround time was</p> <p>15 pretty rapid?</p> <p>16 A I don't recall that it took an excessively</p> <p>17 long time. I don't remember anything distinctive</p> <p>18 about it as being very promptly or delayed.</p> <p>19 Q Was -- when you sent that letter, did you</p> <p>20 have any attachments to the letter? Do you recall?</p> <p>21 A I don't believe so.</p> <p>22 MR. RILEY: Judge, this is not an</p> <p>23 objection, but I -- before we do an extensive search</p> <p>24 of the discovery material, it does seem from counsel's</p> <p>25 questioning that he has a copy of the letter that he's</p>
<p style="text-align: right;">Page 75</p> <p>1 address?</p> <p>2 A Yes.</p> <p>3 Q In your testimony, you refer to a letter</p> <p>4 issued by the Railroad Commission. Okay. All right.</p> <p>5 Do you recall?</p> <p>6 A Yes.</p> <p>7 Q Did you personally -- I mean, on behalf of</p> <p>8 the company, of course, but did you personally make</p> <p>9 that request to the Railroad Commission?</p> <p>10 A I think I personally sent the letter, but I'm</p> <p>11 not certain. But I'm aware of the letter that was</p> <p>12 sent and I am aware of the response that came back</p> <p>13 from the Railroad Commission. I have a copy of it.</p> <p>14 Q You have a copy of what?</p> <p>15 A Of the letter that was returned by the</p> <p>16 Railroad Commission.</p> <p>17 Q Do you have a copy of the letter that you</p> <p>18 sent to the Railroad Commission --</p> <p>19 A Yes.</p> <p>20 Q -- in your files?</p> <p>21 A Yes.</p> <p>22 MR. GERSHON: Okay. I just want to make</p> <p>23 a note for the record that we requested that letter</p> <p>24 and it was never disclosed in discovery. Counsel for</p> <p>25 TexCom, we'd appreciate a copy of that letter and an</p>	<p style="text-align: right;">Page 77</p> <p>1 asking the witness about. If it's appropriate, can</p> <p>2 Your Honors consider asking counsel if he actually has</p> <p>3 a copy?</p> <p>4 MR. GERSHON: We do not have a copy of</p> <p>5 the letter. We have a copy of the Railroad</p> <p>6 Commission's letter, but we do not have a copy of the</p> <p>7 applicant's request to the Railroad Commission.</p> <p>8 JUDGE WALSTON: Okay. And that's --</p> <p>9 MR. RILEY: Well, he was asking</p> <p>10 questions about turnaround time and attachments and it</p> <p>11 suggested that he had seen something that had been</p> <p>12 submitted to the Railroad Commission.</p> <p>13 JUDGE WALSTON: It may be based on the</p> <p>14 content of the Railroad Commission --</p> <p>15 MR. GERSHON: Well, and that was my</p> <p>16 question before I -- before we got into this</p> <p>17 discussion about that.</p> <p>18 JUDGE WALSTON: Okay.</p> <p>19 Q (By Mr. Gershon) Can you -- okay. So there</p> <p>20 was nothing attached to the letter. I don't know if I</p> <p>21 got your answer to that.</p> <p>22 A I said I don't recall whether there was an</p> <p>23 attachment to it.</p> <p>24 Q You don't know or you're --</p> <p>25 A I don't recall.</p>

20 (Pages 74 to 77)

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<p style="text-align: right;">Page 78</p> <p>1 Q Okay. Was there any dialogue or any other 2 exchange of information or discussion between TexCom 3 and Railroad Commission as a follow-up to your letter 4 request? 5 A I don't know of any. 6 Q Was the information submitted to the Railroad 7 Commission in your letter -- whatever information that 8 was, accurate to the best of your knowledge? 9 A Yes. 10 Q Who else at your company would have known 11 about that submission? 12 And let me take a step back. Is it true 13 that the information in your letter would have been -- 14 and that the request contained in that letter was 15 really focused on whether or not your project would 16 contaminate oil or gas reserves within the vicinity of 17 your project? 18 A "Contaminate, interfere with or/and somehow 19 adversely affect it," I think language of that nature 20 was used in that letter. 21 Q And so you agreed? 22 A And we were asking the Railroad Commission to 23 send us a response to that. 24 Q Did you make the Railroad Commission aware 25 that there is active production in the oil field?</p>	<p style="text-align: right;">Page 80</p> <p>1 JUDGE WALSTON: Okay. Mr. Gershon, it 2 sounds like you're going into a little bit of a 3 different area. Why don't we go ahead and take our 4 morning break at this time. 5 MR. GERSHON: Fair enough. 6 JUDGE WALSTON: Okay. We'll take a 7 15-minute break. We'll go off the record at this 8 time. 9 (Recess: 10:31 a.m. to 10:46 a.m.) 10 JUDGE WALSTON: Okay. We'll go back on 11 the record. 12 Mr. Gershon, you can continue. 13 MR. GERSHON: Thank you, Your Honors. 14 Q (By Mr. Gershon) As we were breaking, 15 Dr. Ross, I had referred to you your prefiled 16 testimony -- I think I had mentioned Page 7 of that 17 prefiled testimony. On Line 15, you get into a 18 discussion of environmental -- I'm reading from your 19 prefiled question of your legal counsel, environmental 20 authorization that TexCom has applied for in 21 connection with this project. 22 In that final paragraph on that page, 23 you talk about what's called a "Permit by Rule ('PBR') 24 registration to authorize the minor amount of air 25 emissions." You express some familiarity in that</p>
<p style="text-align: right;">Page 79</p> <p>1 A I don't believe we did. We gave them 2 information about our application for a Class I well, 3 UIC well, and asked them to respond whether or not 4 that would have any effect on oil and gas production 5 in the region. 6 Q Was TexCom recently sued in state court by a 7 company claiming that your project will, in fact, 8 damage their active oil -- their active oil production 9 in the field? 10 A Yes. 11 Q And what was the name of that company? 12 A Wapiti, W-a-p-i-t-i. 13 Q Is -- has that litigation been resolved? 14 A No. 15 Q And where is that case pending? 16 A We responded to it and we're waiting for 17 further action on their part. 18 Q I'm sorry. Where -- I apologize. Where is 19 that case? 20 A Oh. Where. The location. 21 Q Right. 22 A The motion -- or the filing from Wapiti was 23 filed in Harris County. 24 Q In your testimony, you say that you qualified 25 for a permit by rule registration.</p>	<p style="text-align: right;">Page 81</p> <p>1 prefiled testimony with what you've cited in your 2 answer. It says "TCEQ's rules (30 Texas 3 Administrative Code Section 106.1)." You cite to that 4 testimony -- I mean, I'm sorry. You cite in your 5 testimony to that section. Are you familiar with 6 106.1? 7 A I'm not familiar with the code itself, but 8 I'm familiar with the permit by rule and what it 9 means. 10 Q Okay. And is it fair to say that permitting 11 by rule is authorized within this section, Chapter 12 106? That's how I understood what your testimony -- 13 A That's what the testimony says, yes. It's in 14 that section. Correct. 15 Q Okay. 16 MR. GERSHON: If I could approach, Your 17 Honors. 18 JUDGE WALSTON: Yes. 19 MR. GERSHON: I have a number of 20 exhibits that are relevant to this testimony. I've 21 probably got about 15 minutes, 20 minutes of questions 22 on it, and probably it would be most efficient to hand 23 them all to -- 24 JUDGE WALSTON: That's fine. 25 MR. GERSHON: -- the witness now.</p>

21 (Pages 78 to 81)

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<p style="text-align: right;">Page 82</p> <p>1 In addition to the exhibits -- well, let 2 me say that some of the exhibits come directly out of 3 the application, and so I don't know if for -- how you 4 want that record to read. I can -- we don't have to 5 actually admit them as exhibits. I can just have him 6 refer to what I'm handing him as -- if he agrees that 7 they are part of his application. 8 JUDGE WALSTON: I'd go ahead and admit 9 them, just -- I think it helps keep the record clean. 10 MR. GERSHON: Okay. That's fair enough. 11 And that's how I had prepared it. 12 Additionally, I have some documents that 13 I would like Your Honors to take judicial notice of. 14 There are a couple of Federal Register -- documents 15 from the Federal Register that establish that 16 Montgomery County is in what we refer to under the 17 Clean Air Act, "nonattainment." I don't know if 18 there's any -- if we can stipulate that Montgomery 19 County is within the nonattainment zone -- 20 MR. RILEY: For certain air pollutants. 21 If counsel would be more specific, I'm sure we can 22 reach a stipulation. 23 JUDGE WALSTON: Either way you want to 24 proceed. If you-all want to try and work out a 25 stipulation or if you want us to take official notice</p>	<p style="text-align: right;">Page 84</p> <p>1 official notice of the Federal Register? 2 MR. RILEY: I don't think you have to 3 take official notice of Federal Register publications 4 and/or rules promulgated by the United States 5 Environmental Protection Agency. Those are laws that 6 are potentially applicable in environmental 7 authorizations. Though I haven't seen anything yet, I 8 suspect I'm going to have an objection to relevance, 9 but I'll wait and be patient until I see something I 10 can, maybe, intelligently respond to. 11 MR. GERSHON: Okay. Did you want a copy 12 of these excerpts? 13 JUDGE WALSTON: Yes. 14 MR. GERSHON: So I don't need to give 15 them to the court reporter? We're not admitting them 16 as -- 17 JUDGE WALSTON: No. 18 MR. GERSHON: Okay. And the other 19 citation, two copies. 20 I'm going to hand a couple of these to 21 the TCEQ attorneys, two documents. If any of the 22 other counsel are interested in it, I have copies up 23 here for you. I'll get them to you in just a minute. 24 Okay. Back to the exhibits. 25 JUDGE WALSTON: Just for the record, we</p>
<p style="text-align: right;">Page 83</p> <p>1 of the regulation. 2 MR. GERSHON: Yeah. Let's do the 3 latter. 4 JUDGE WALSTON: Okay. 5 MR. GERSHON: What I'll do is cite to 69 6 Federal Register 23858. That's an April 30th, 2004 7 rule of the Environmental Protection Agency -- excuse 8 me -- and a cite of 56 Federal Register 5 -- 56694 -- 9 that's 56694 -- dated November 6th, 1991, another rule 10 adopted by the Environmental Protection Agency. And 11 then, finally, I have a document from the Texas 12 Commission on Environmental Quality. It's from their 13 Web page. It kind of -- it summarizes the status of 14 nonattainment within Montgomery County, and I tell 15 you -- I don't think that document is necessary. I 16 mean, if I can just cite you to the two Federal 17 Registers. 18 Okay. And turning back to the 19 exhibits -- 20 JUDGE WALSTON: Do you have copies of 21 the Federal Register sections? 22 MR. GERSHON: Yes. I have the relevant 23 excerpts. 24 JUDGE WALSTON: And while you're looking 25 for those, are there any objections to us taking</p>	<p style="text-align: right;">Page 85</p> <p>1 will take official notice of these two sections of the 2 Federal Register. 3 And I understand your question about 4 relevancy, but since they're not being admitted as 5 exhibits, that can be reserved for argument. 6 MR. RILEY: Again, I don't think you 7 have to take notice, but if that's appropriate under 8 these circumstances, I have no objection of taking 9 notice of the law. 10 JUDGE WALSTON: Correct. 11 MR. GERSHON: Let the record reflect 12 that I've just handed a document to Dr. Ross. We will 13 be marking this -- I think we're at No. 19. Is that 14 correct? 15 JUDGE EGAN: The last one we had was No. 16 18. So this would be No. 19. 17 (LS/District Exhibit No. 19 marked) 18 Q (By Mr. Gershon) Dr. Ross, if you could, 19 take a look at that document, please. 20 (Brief Pause) 21 MR. GERSHON: This document I'm handing 22 you will be No. 20. 23 (LS/District Exhibit No. 20 marked) 24 MR. GERSHON: As I mentioned, there are 25 a couple of documents that come directly out of the</p>

22 (Pages 82 to 85)

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<p style="text-align: right;">Page 86</p> <p>1 applicant's application. This is one of those 2 documents, and it's so reflected in the bottom right 3 corner of the page. 4 This last document is also from the 5 applicant's application as reflected in the bottom 6 right corner. 7 (LS/District Exhibit No. 21 marked) 8 MR. GERSHON: Okay. So for purposes of 9 the record, I have handed Dr. Ross what we have marked 10 as Exhibits 19, 20, and 21. 11 MR. RILEY: Sorry. Is there a 21? We 12 have 19 and 20. 13 MR. GERSHON: I'm sorry. 14 Q (By Mr. Gershon) Dr. Ross, have you had an 15 opportunity to look at these three documents? 16 A Yes. 17 Q Are you familiar with them? 18 A Yes. 19 Q Let's start with what's marked as Exhibit 19. 20 Could you tell me what that document is? 21 A It's a letter from the TCEQ back to TexCom 22 informing us that they have registered the emissions 23 that were associated with our non-hazardous wastewater 24 disposal facility as had been filed by Mr. Blanchard. 25 Q Why do you testify about your securing this</p>	<p style="text-align: right;">Page 88</p> <p>1 JUDGE WALSTON: Sure. 2 MR. GERSHON: This witness has testimony 3 that is on the record that I have an opportunity to 4 cross-examine him about. This witness has explained 5 that he has familiarity with the program that governs 6 this. We strongly disagree. This -- I'm going to ask 7 questions and we will have evidence to refute the 8 point that they've complied with those requirements. 9 It will absolutely prove that they haven't complied 10 with that requirement. 11 JUDGE WALSTON: Well, you can ask him 12 questions about what's contained in his prefiled 13 testimony, but we're not going to get off into all the 14 air emissions extensively. But go ahead and ask your 15 questions. 16 MR. GERSHON: Okay. Fair enough. 17 JUDGE WALSTON: And then you can raise 18 objections as they ask. 19 MR. RILEY: I guess that will have to 20 do. 21 Q (By Mr. Gershon) Dr. Ross, in your 22 testimony, you cite to the TCEQ rule that I've just 23 mentioned, 106. -- what was it -- 106.1, and that 24 you've -- is that correct -- 25 A Yes.</p>
<p style="text-align: right;">Page 87</p> <p>1 permit by rule registration in this proceeding? 2 A We were -- as you recall, the question is 3 having -- on Page 7, "What types of environmental 4 authorizations has TexCom applied for in connection 5 with the project," and we were simply clarifying that 6 in addition to the UIC permit and the surface facility 7 permit, we also were required by state regulations to 8 obtain an air emissions permit, if one were required. 9 In this case, we can get a permit by rule because of 10 the nature of the materials we're handling. 11 Q And so is it your understanding that TexCom 12 has fully complied with the requirements for the -- 13 that relate to air emissions in this case? 14 A That's my understanding. Yes. 15 Q Okay. Are you aware that your legal counsel, 16 on your behalf, contested the relevancy of a previous 17 testimony that relates to air emissions on this 18 project? 19 A Yes. 20 MR. RILEY: We have made an objection. 21 Your Honors have ruled, and that is not relevant to 22 this proceeding and I object to this line of 23 questions, if it's going to go into the air permit 24 application. 25 MR. GERSHON: Can I respond, please?</p>	<p style="text-align: right;">Page 89</p> <p>1 Q -- you've cited to 106.1 in your testimony? 2 A Yes. 3 Q Did you read 106.478? 4 A No, I did not. 5 Q I'm going to ask you a couple of questions 6 about this rule that also applies to your project. 7 MR. RILEY: Objection, relevance. 8 JUDGE WALSTON: Well, let's hear the 9 question first. 10 MR. RILEY: Well, he's already made a 11 statement that it is -- it applies. So he is 12 testifying about an air permit requirement that he, 13 counsel, maintains applies. 14 MR. GERSHON: Let me ask some fact-based 15 questions. 16 Q (By Mr. Gershon) One of the documents I 17 handed to you is a map and the other document is a 18 chart with -- listing out certain tanks that you have 19 at your proposed facility. Correct? 20 A Yes. 21 Q Exhibits 21 and -- 22 A 20 and 21. 23 Q -- 20. Exhibit 20 and 21 are TexCom's 24 documents. Correct? 25 A Yes, they are.</p>

23 (Pages 86 to 89)

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<p>1 Q Does Exhibit -- let's start with Exhibit 21. 2 Does Exhibit 21 list a number of types of tanks that 3 are proposed to be on your facility? 4 A Yes. 5 Q I'm sorry. 6 A Yes. 7 Q There was a cough. 8 In the second column on that exhibit, 9 does it list the capacity of those tanks? 10 A Yes. 11 Q Are there any tanks that exceed 12 25,000 gallons' capacity? 13 A Yes. 14 Q How many? 15 A Five -- oh. 25,000. 16 Q Yes, sir. 17 A Excuse me. Three. 18 Q I'm sorry. Three? 19 A Three. 20 Q And could you identify those, please? 21 A Injection tanks, two of them at 22 30,000 gallons each. Storage mixing -- excuse me. 23 Stormwater tank, one of those, 30,000 gallons, and a 24 saltwater tank, 30,000 gallons. 25 Q And I apologize. Just for the record, that</p>	<p>1 Q Okay. That wasn't meant to be a trick 2 question. I just wanted to make sure that I'm reading 3 this properly since it's your exhibit. 4 A That was the status of those properties at 5 the time the application was prepared. 6 Q Are you aware of any changes in the nature of 7 any of these properties? 8 A I am not. 9 Q Okay. In the -- as I turn your document 10 sideways, just so I'm reading it horizontally, is 11 there a scale on this map so you can tell distances? 12 A Yes. 13 Q And does that scale reflect, you know, what 14 I'm reading in the lower right-hand corner, 0 to 15 300 feet? 16 A Yes. 17 Q Now, focused in the middle of this document, 18 where -- what's kind of a cross-hatched -- not really 19 a cross-hatched, but diagonal lines coming across a 20 little square box that reads in your legend, is that 21 the TexCom processing area? 22 A Yes. 23 Q Okay. And then your full site, which I 24 understand is -- how many acres? About 27 acres. Is 25 that correct?</p>
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<p>1 would be four tanks, then? 2 A Four tanks. 3 Q Okay. 4 A You asked in excess of 25,000 gallons? 5 Q Correct. Yeah. 6 A Then the answer is four. 7 Q Okay. Let me turn to Exhibit 20. What does 8 Exhibit 20 reflect? 9 A It's a map of the site. 10 Q Does it reflect anything beyond your site? 11 Does it show any other properties? 12 A It shows the properties adjacent to our 13 property, that site onto FM 3083. 14 Q Are there sites identified by number and the 15 nature of use on those sites? By "nature of use" -- 16 I'm just reading from your own exhibit, 17 "Residential" -- 18 A Yes. 19 Q -- "Commercial." 20 A Yes. They're numbered and they say 21 "Residential" or "Commercial." 22 Q So you can tell from this map which of these 23 distinct properties are commercial or residential. 24 Correct? 25 A Yes.</p>	<p>1 A That's correct. 2 Q Does your site -- is your site located within 3 500 feet of any residential properties? 4 A Yes. 5 MR. GERSHON: Okay. Your Honors, I'm 6 going to ask some questions that relate specifically 7 to their permit by rule, and I'm going to establish 8 that -- based on the testimony of this expert, that 9 there are tanks above 30 -- I mean, 25,000 gallons' 10 capacity and that the site is within 500 feet, that 11 they did not comply with the rule that this 12 expert -- this expert -- I mean, this witness has 13 testified they complied with in his testimony. 14 JUDGE WALSTON: Okay. Well, at this 15 point, just ask your questions. 16 MR. GERSHON: Okay. 17 JUDGE WALSTON: And we'll see if there 18 are objections. 19 MR. RILEY: Your Honor, I'm going to 20 object to the statement because the witness testifies 21 that an application was made and a registration was 22 accepted. 23 JUDGE WALSTON: Okay. Well, his 24 statement may or may not be accurate. It's just -- 25 it's not evidence. It's just an attorney's statement.</p>

24 (Pages 90 to 93)

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<p style="text-align: right;">Page 94</p> <p>1 Q (By Mr. Gershon) Okay. Dr. Ross, I think 2 I've asked you this question, but from your counsel's 3 remarks here, let me make sure I'm clear, because it 4 doesn't sound like he's clear. 5 MR. RILEY: I'm going to object and I'm 6 going to ask that counsel refrain from making 7 comments. My point was simply that the testimony and 8 counsel's description or editorializing of the 9 testimony is inappropriate as a framing mechanism for 10 his question. That's objectionable. 11 JUDGE WALSTON: Okay. Just ask your 12 question without commenting or making side-bar 13 comments. 14 MR. GERSHON: Certainly. 15 Q (By Mr. Gershon) Dr. Ross, I think you've 16 said -- let me make sure I understand. 17 It's your company's position that you 18 complied with all air permitting requirements. 19 A Yes. 20 Q Is it your understanding that Exhibit 19 21 reflects the Commission's evaluation of a request made 22 by TexCom to satisfy those air permitting 23 requirements? 24 A That is my understanding. Yes. 25 Q Is that the universe of requirement -- air</p>	<p style="text-align: right;">Page 96</p> <p>1 nonattainment area for ozone shall be registered with 2 the commission's Office of Permitting, Remediation and 3 Registration in Austin using Form PI-7. The 4 registration shall include a list of all tanks, 5 calculated emissions for each carbon compound in tons 6 per year for each tank, and a Table 7 of Form PI-2 for 7 each different tank design." 8 A I'm not aware that we have filed that, and I 9 would suspect the reason is because, as you stated, 10 we're required to do that before tank construction 11 begins. We will not begin tank construction until 12 after we have received the UIC permits. 13 Q Fair enough. 14 A The surface facility permits. 15 MR. RILEY: Could counsel explain where 16 he's reading from? I'm having trouble -- 17 JUDGE WALSTON: All right. Where was 18 that read from? 19 MR. GERSHON: Title 30, Section 106.478. 20 JUDGE WALSTON: Okay. Thank you. 21 Q (By Mr. Gershon) Dr. Ross, is it true that 22 TexCom, as the applicant in this case, has to list out 23 the regulatory requirements that they must meet to 24 proceed with their project? 25 A I believe so. Yes.</p>
<p style="text-align: right;">Page 95</p> <p>1 emissions requirement that your company is required to 2 comply with to your understanding? 3 A That was my advice -- what I've been advised, 4 yes. 5 Q Are you aware that your company does not 6 qualify for permitting by rule if your site is within 7 500 feet of residential properties or if you have a 8 certain sized tank? 9 A No. I'm not aware of those conditions. 10 MR. GERSHON: And let me -- with all 11 candor to Your Honors, there are -- well, I don't want 12 to get into any argument. I'll proceed. 13 Q (By Mr. Gershon) Dr. Ross, has your company 14 filed a Form PI-7, with TCEQ? 15 A Could you repeat the letters? 16 JUDGE WALSTON: Yeah. The air 17 conditioner kicked on right as you were saying that. 18 Q (By Mr. Gershon) Doctor, has TexCom filed 19 Form PI-7 with TCEQ? 20 A You'll have to identify for me, please, what 21 PI-7 is. 22 Q Certainly. Under a section of Chapter 106 -- 23 106.478, Subsection (7), it reads, "Before 24 construction begins, storage tanks of 25,000 gallons 25 or greater capacity and located in a designated</p>	<p style="text-align: right;">Page 97</p> <p>1 Q And is it true that you -- you're not 2 familiar with Form PI-7? 3 A No, I'm not. 4 Q Okay. And nor has the applicant in its 5 application made any reference to this form? 6 A I don't believe they have. No. 7 Q Okay. In that same section -- let me read. 8 It seemed like it was beneficial to you to hear that 9 section. Let me read one other section so I can ask 10 you some factual questions about it. 11 I'm reading Subsection (1) of that same 12 section. The tank -- well, "Any fixed or floating 13 roof storage tank or change of service in any tank 14 used to store chemicals or mixtures of chemicals shown 15 in Table 478 in Paragraph (8) of this section is 16 permitted by rule, provided that all of the following 17 conditions of this sections are met: 18 Subsection (1)" -- 19 MR. RILEY: Objection. And, Judge, I 20 need a moment of your time to explain my objection. 21 If counsel would take a moment and look 22 at the section cited for the TCEQ document that he has 23 put into evidence as Exhibit 19, it details which 24 permits by rule TexCom registered for with the TCEQ. 25 None of those are 106.478. So he is simply reading a</p>

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<p style="text-align: right;">Page 98</p> <p>1 section that is not applicable to any activity with 2 the TCEQ or an authorization that TexCom has applied 3 for. Moreover, it is certainly not subject of this 4 proceeding and I'm going to object to any further 5 questions along these lines on the basis of relevance. 6 JUDGE WALSTON: How is Section 106.478 7 relevant to this proceeding? 8 MR. GERSHON: Well, it's my 9 understanding, Your Honors, that this chapter is 10 applicable, and there are various sections within this 11 chapter that apply. TexCom has asserted that they 12 have complied with one of those sections, 106.1. It's 13 our contention that you are disqualified from this 14 permit by rule under certain circumstances, and to be 15 quite candid, I've had the witness talk about enough 16 facts for Your Honors to be able to apply this after 17 an opportunity to review the chapters and we can 18 certainly brief this in our closing arguments. I 19 don't have any other questions of this witness that 20 would require me to build out the facts. You-all can 21 look at it after we submit argument and closing brief. 22 MR. RILEY: May I respond, Your Honor? 23 JUDGE WALSTON: Yes. 24 MR. RILEY: And I appreciate counsel 25 withdrawing -- or moving on to another area, but I</p>	<p style="text-align: right;">Page 100</p> <p>1 Thank you, Dr. Ross. 2 JUDGE WALSTON: Okay. I believe the 3 Montgomery County/Conroe is next. Do you have 4 questions? 5 MR. WALKER: Yes, Your Honor, just a few 6 questions. 7 JUDGE WALSTON: Okay. 8 CROSS-EXAMINATION 9 BY MR. WALKER: 10 Q Dr. Ross, do you have any specific personal 11 knowledge of the current population of Montgomery 12 County? 13 A I've heard it stated this morning as 14 approximately 400,000 people. 15 Q All right. Do you have any dispute with that 16 reference? 17 A No, I do not. 18 Q Do you have any personal knowledge or 19 experience as to the source of drinking water in 20 Montgomery County? 21 A I've heard at the July 18th preliminary 22 meeting and again this morning that the County relies 23 entirely on subsurface water. 24 Q Do you have any dispute with that reference? 25 A No, I don't.</p>
<p style="text-align: right;">Page 99</p> <p>1 would like to make clear that counsel simply does not 2 seem to appreciate how permits by rule work at the 3 TCEQ. It is an election to seek an authorization 4 under a specific permit by rule. It is not a 5 requirement that you meet all permits by rule as a 6 part of your registration. 7 So that is made clear in Exhibit 19. If 8 counsel wishes to brief, he is certainly welcome to. 9 But, again, I would stress that our fundamental 10 objection is that all of these matters are outside the 11 considerations that are before you. 12 JUDGE WALSTON: Okay. At this point, 13 I'll be candid, I'm not sure whether that rule applies 14 or not. So we'll go ahead and allow the questioning, 15 and, you know, subsequently may determine it has no 16 weight and shouldn't be given any weight. But we'll 17 go ahead and allow this one more question on this 18 section. 19 MR. GERSHON: Thank you, Your Honor. 20 If you can bear with me for just 30 21 seconds while I talk to my co-counsel. 22 JUDGE WALSTON: Sure. 23 (Brief Pause) 24 MR. GERSHON: I'll pass the witness at 25 this point.</p>	<p style="text-align: right;">Page 101</p> <p>1 Q Dr. Ross, do you have any knowledge as to the 2 current ability, if you will, of groundwater to keep 3 up with, if I may use that term, the growing 4 population in Montgomery County? 5 A No. I don't have that information. 6 Q Let me ask you, Dr. Ross, if you have 7 undertaken any steps, either yourself or through your 8 consultants that you've retained, to make a 9 determination concerning the current supply of 10 groundwater, freshwater, in Montgomery County and 11 whether or not it is diminishing or currently 12 satisfactory. Have you made any study of that? 13 A We have not made a study of that. No. 14 Q Would you consider that to be an important 15 issue? 16 A I would consider it to be important if there 17 was any risk that our activity would put the quality 18 of the water in jeopardy. 19 Q Dr. Ross, are you familiar with the 20 requirement in Section 27.051 of the Texas Water Code, 21 Subsection (a)(1), that the use or installation of 22 your injection well must be in the public interest? 23 Are you familiar with that statutory requirement? 24 A Yes. 25 Q Let me ask you, Dr. Ross, if you believe that</p>

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<p>1 the presence of this wastewater injection well is</p> <p>2 specifically in the public interest of the citizens of</p> <p>3 Montgomery County.</p> <p>4 A I do.</p> <p>5 Q Would you please tell this Court why you</p> <p>6 think or to what extent it is in the public interest</p> <p>7 of the county?</p> <p>8 A It provides a safe, responsible and</p> <p>9 state-approved means to dispose of Class I</p> <p>10 non-hazardous wastewater generated specifically by</p> <p>11 generators within the county.</p> <p>12 Q And I think you've touched on this. I</p> <p>13 certainly don't want to be redundant, but industrial</p> <p>14 waste that is currently produced in Montgomery County</p> <p>15 is being, as far as you know, sent or shipped for</p> <p>16 disposal to some other location. Is that correct?</p> <p>17 A You said industrial waste. Are you referring</p> <p>18 to Class I non-hazardous wastewater specifically?</p> <p>19 Q Yes, sir. Yes, sir. Thank you.</p> <p>20 A I know of some instances where it is being</p> <p>21 taken out of the county for disposal. Yes.</p> <p>22 Q All right. Do you know through your own</p> <p>23 research how many such companies produce industrial</p> <p>24 waste of the non-hazardous variety and have a</p> <p>25 requirement to ship it out of the county for disposal?</p>	<p>1 compiled multiple pages of all the generators of this</p> <p>2 class of wastewater within the county, and having that</p> <p>3 data will allow me to analyze the type of question</p> <p>4 you're asking.</p> <p>5 Q All right. Would you agree with me,</p> <p>6 Dr. Ross, that clearly, without question, the largest</p> <p>7 and most predominant industrial concern in Montgomery</p> <p>8 County that will prospectively deliver non-hazardous</p> <p>9 industrial waste to your site would be Huntsman</p> <p>10 Corporation?</p> <p>11 A That is my understanding and I would agree</p> <p>12 with your statement.</p> <p>13 Q And it is your understanding that Huntsman</p> <p>14 presently is shipping their industrial waste to</p> <p>15 another location?</p> <p>16 A Yes. That's correct.</p> <p>17 Q Dr. Ross, I'm not certain that this has been</p> <p>18 inquired of you, but where do you presently live?</p> <p>19 A I live in Houston, Texas.</p> <p>20 Q How long have you live there?</p> <p>21 A Since 1986.</p> <p>22 Q Do you have any residence in Montgomery</p> <p>23 County?</p> <p>24 A No, I do not.</p> <p>25 Q If I may, Dr. Ross, I would like to refer to</p>
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<p>1 A I don't have that exact number. No.</p> <p>2 Q So let me ask you, then, if you have any</p> <p>3 knowledge at all of whether or not those companies,</p> <p>4 whoever they are and however many there are, are they</p> <p>5 experiencing any kind of economic burden in shipping</p> <p>6 their industrial waste, non-hazardous, out of the</p> <p>7 county for disposal?</p> <p>8 A Whether or not it constitutes an economic</p> <p>9 burden to those people is very specific to each of</p> <p>10 them, and I don't know the circumstances of each. So</p> <p>11 no.</p> <p>12 I might add that wherever they're</p> <p>13 shipping their water, it would be at a greater</p> <p>14 distance than what our proposed site would be --</p> <p>15 Q Certainly.</p> <p>16 A -- to anybody within the county.</p> <p>17 Q Let me ask you, Dr. Ross: If we refer to</p> <p>18 total gallons of non-hazardous industrial waste that</p> <p>19 are to be delivered to the TexCom site, do you have</p> <p>20 any ability to provide the Court with an estimate of</p> <p>21 what percentage of that total gallon amount would</p> <p>22 originate in Montgomery County?</p> <p>23 A I don't have the figure calculated yet, but</p> <p>24 we're collecting the information that will allow us to</p> <p>25 do that. I mentioned earlier that we have now</p>	<p>1 Page 6 of your prefiled testimony. Specifically, an</p> <p>2 answer starting on Line 8, the second sentence there</p> <p>3 beginning on Line 9, you state that "The effluent</p> <p>4 streams proposed for injection are mostly water." Is</p> <p>5 that correct?</p> <p>6 A Yes.</p> <p>7 Q If you'll look down on that same page,</p> <p>8 beginning on Line 24, you make a statement, "We would</p> <p>9 be permitted to accept water that had been in contact</p> <p>10 with those materials and may contain very low</p> <p>11 concentrations of them." Is that correct?</p> <p>12 A Yes.</p> <p>13 Q Now, Dr. Ross, are you implying that the</p> <p>14 industrial, quote, "non-hazardous waste" that you</p> <p>15 propose to dispose of at your site is somehow hardly</p> <p>16 different from, quote, "water"?</p> <p>17 A In some instances, yes, some of the water</p> <p>18 that we would be taking in as meeting this category of</p> <p>19 wastewater may contain parts per million or parts per</p> <p>20 billion of some other substance, but there are other</p> <p>21 cases where there may be a dissolved substance that is</p> <p>22 in a multiple percentage by weight. So there's a wide</p> <p>23 range of dissolved substances in this class of</p> <p>24 wastewater that would be acceptable as meeting the</p> <p>25 definitions of Class I non-hazardous wastewater.</p>

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<p style="text-align: right;">Page 106</p> <p>1 Q Okay. But you're not trying to suggest that 2 essentially what you're going to pump into the earth 3 here in Montgomery County is some innocuous, just, 4 water, are you? 5 A Nearly so, yes. The distinction we're making 6 in the testimony using antifreeze as an example -- and 7 it's a very relevant one, because the public here 8 thinks that we're going to be bringing in truckloads 9 of pure antifreeze and pumping it in the ground. 10 That's not correct. 11 This is a good example to make the 12 distinction, Mr. Walker. Antifreeze or ethylene 13 glycol, as its chemical name, is, in fact, a toxic 14 substance if ingested. If we were to be asked to 15 dispose of ethylene glycol or antifreeze at the site, 16 we would have to reject it based on its toxicity. 17 On the other hand, if someone were 18 bringing us wastewater that had four parts per million 19 of antifreeze in it, that does meet the criteria, 20 because according to the toxicology listings of the 21 Federal EPA and the State TCEQ, that's not a toxic 22 material, because at that level of four parts per 23 million, it's not toxic, even if you were to drink it. 24 Q All right. 25 A That's a distinction I was trying to make in</p>	<p style="text-align: right;">Page 108</p> <p>1 Secondly, "Is it corrosive?" Thirdly, "Is it 2 reactive?" And, fourthly, "Is it toxic?" If the 3 answer to any one of those questions is "yes, it's a 4 hazardous substance," then it must be disposed of in 5 accordance with the rules and regulations for 6 hazardous waste disposal. If the answer to all those 7 questions is "no," then the material is classified as 8 non-hazardous and then you go on to classify those as 9 Class I, II or III. 10 JUDGE WALSTON: I think his question to 11 you, though, is: A truck shows up. How are you going 12 to determine if it is or is not hazardous? 13 Is that your question? 14 MR. WALKER: That was going to be my 15 next question, Judge. 16 (Laughter) 17 JUDGE WALSTON: Oh, okay. I thought 18 that's what you asked. 19 A No. I didn't take it that way at all. 20 JUDGE WALSTON: Okay. I misunderstood 21 then. 22 Q (By Mr. Gershon) First I want to ask: 23 Dr. Ross, do you accept and do you admit that you have 24 a requirement to make sure that what you receive is 25 only proper materials under your permit?</p>
<p style="text-align: right;">Page 107</p> <p>1 my testimony, sir. 2 Q Thank you, Dr. Ross. 3 Let me ask you this: The waste that is 4 presented at TexCom, if this facility is permitted, 5 would you drink it? 6 A It depends on what it is. Some, yes; some, 7 no. 8 Q Thank you, Dr. Ross. 9 Let me ask you: You've mentioned the 10 reference to the EPA just presently. Let me direct 11 your attention, if I may, also, to Page 6. I believe 12 it's Line 11 of your testimony. "All wastewater 13 accepted by TexCom must be classified as non-hazardous 14 by EPA and TCEQ." Do you see that testimony? 15 A Yes. 16 Q What is the means, if you can tell me, I 17 suppose, succinctly, that the wastewater accepted 18 which must be so classified as you have stated, how 19 will you ensure that is the case? 20 A What I'm referring to there -- to put it in 21 brief terms, is, there are four critical criteria to 22 determine whether a substance is hazardous or not, and 23 to classify a material, a substance, a wastewater, you 24 have to answer "yes" or "no" to those questions. 25 "Is it flammable or ignitable?"</p>	<p style="text-align: right;">Page 109</p> <p>1 A Absolutely. Without a doubt. 2 Q And would your published methodology or 3 procedure for ensuring that you only accept proper 4 materials be found in your waste acceptance plan? 5 A Yes. It's included in the application. 6 Q And is there any other portion of the 7 application that either supplements or modifies the 8 procedures and requirements in the waste acceptance 9 plan or is the WAP it? 10 A Could you state that again, please, sir? 11 Q I'm portraying my lack of sophistication. 12 Is your waste acceptance plan the 13 guidance that we have available that tells us how 14 you're going to ensure that what you accept is 15 appropriate? 16 A Generally speaking, but I think your other 17 question then was, "Are we going to do any other 18 things, any other procedures to supplement that?" 19 Q Well, my question was: Is there anything 20 else in the application that describes other 21 procedures that you're going to do? 22 A Not in the application. No. 23 Q Since you have a requirement to ensure that 24 waste materials that you receive are, quote, 25 "acceptable," doesn't that imply or suggest that</p>

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<p style="text-align: right;">Page 110</p> <p>1 someone might try to send to you unacceptable 2 materials, whether on purpose or by accident? 3 A I don't think it implies or suggests it. No. 4 It doesn't rule out the possibility. I would 5 acknowledge that. 6 Q You're not asking the citizens of Montgomery 7 County, Dr. Ross, to place all of their trust in 8 industrial producers all over Houston, are you, as to 9 whether or not they're going to ship something harmful 10 up here? 11 A No. We're asking them to put our trust in 12 our waste acceptance procedures and to trust TexCom, 13 as the operator, to be responsible for that. 14 Q Okay. Regardless of the -- at least let me 15 call it a suggestion that some quantities of the waste 16 delivered to your site would be, if not, innocuous, at 17 least approaching that, all of those materials 18 delivered would be required to be injected into the 19 earth. Correct? 20 A Is your question if they were delivered to 21 our site, it's required that we inject them? 22 Q Yes, sir. 23 A No. Only if they pass our waste acceptance 24 criteria. 25 Q Okay. That's fair. But you're not going to</p>	<p style="text-align: right;">Page 112</p> <p>1 attractiveness is its location near to Houston? 2 A More its geological location and the fact 3 that it had already been permitted spoke very 4 importantly to me that it was a site that would be 5 acceptable according to the TCEQ regulations. 6 Q Of course the fact that it will not cause the 7 expense of drilling a new well is attractive, is it 8 not? 9 A Yes. 10 Q If the two applications are permitted, 11 Dr. Ross, from that point in time, what length of time 12 would it take you to construct your surface facility 13 and begin accepting waste for injection? 14 A From the start of construction, the total 15 period would be 90 to 120 days. 16 Q Would it be fair to say, Dr. Ross, that given 17 the fact that WDW-315 has already been drilled and 18 with the relatively short period that you've just 19 referenced, 120 days of construction, that TexCom Gulf 20 Disposal, post permit approval, would be in a position 21 to begin accepting waste and billing your customers 22 rather quickly? 23 A Yes. 24 Q Is this fact attractive to your board of 25 directors?</p>
<p style="text-align: right;">Page 111</p> <p>1 be disposing of any material by any other means other 2 than injection? 3 A No. 4 Q So regardless of how, quote, diluted or mild 5 one might suggest some of these materials are, they're 6 going down in the ground. Is that right? 7 A Some of them may be treated by us before they 8 go down in the ground. You may recall in the permit 9 draft that we must meet a pH range -- a minimum and a 10 maximum on pH and a minimum and maximum on specific 11 gravity. We also need to remove any suspended solids 12 in any material delivered to us because we can't 13 inject solids into the ground. So the surface 14 facility equipment includes filtration equipment. 15 Q All right. Thank you, Dr. Ross. 16 Since you mentioned the surface 17 facility, let me ask you: What will be the cost of 18 construction of the surface facility? 19 A Approximately \$2 million. 20 Q Dr. Ross, I think you've indicated that this 21 location is attractive, obviously, because you 22 purchased it, but it's attractive because a well has 23 previously been drilled. 24 A In part. 25 Q Perhaps your other reference to its</p>	<p style="text-align: right;">Page 113</p> <p>1 A Yes. 2 Q Let me ask you, Dr. Ross, perhaps one final 3 question. Isn't it really, then, simply true that 4 this particular site, this application, is important 5 to TexCom Gulf Disposal because it will enable you 6 to -- if I may use the phrase, turn a profit much more 7 quickly than some other prospective sites? 8 A No. That wasn't the key consideration in 9 choosing the site and in buying the property and in 10 filing the application. It were the three facts that 11 I mentioned earlier. One, that the well was already 12 there and completed. Secondly, that it had already 13 been permitted and all the implications that has for 14 the technical considerations in geology and 15 hydrogeology. And, thirdly, that there had been no 16 protest or objection to the issuance of the first 17 permit. Those are the three main factors for our 18 decision to acquire the property and to file for 19 applications with the TCEQ. The timing of our ability 20 to start generating revenues was very insignificant. 21 Q Dr. Ross, how many of your prospective 22 clients will have waste that originates outside of 23 Montgomery County? 24 A I'm sorry. I don't know the answer to that 25 at this point.</p>

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<p>1 MR. WALKER: Your Honor, I will pass the 2 witness. 3 JUDGE WALSTON: Okay. Thank you. 4 Going back to Mr. Gershon, did you mean 5 to offer Exhibits 19, 20 and 21? I don't think you 6 did. 7 MR. GERSHON: I did, Your Honors. 8 JUDGE WALSTON: Okay. Are there any 9 objections to Exhibits 19, 20 and 21? 10 MR. RILEY: Subject to what I said 11 earlier, no. 12 JUDGE WALSTON: Okay. 13 MR. RILEY: No objection to the exhibits 14 themselves. 15 JUDGE WALSTON: Lone Star Exhibits 19, 16 20 and 21 are admitted. 17 (LS/District Exhibit Nos. 19 through 21 18 admitted) 19 JUDGE WALSTON: Mr. Forsberg, do you 20 have questions? 21 MR. FORSBERG: Yes, sir. 22 CROSS-EXAMINATION 23 BY MR. FORSBERG: 24 Q Good morning, Dr. Ross. 25 A Good morning.</p>	<p>1 property, that we would be able to start generating 2 revenues in a short period of time?" My answer was 3 "That's not that critical a factor, whether we started 4 generating revenues within 6 months, 9 months, 12 5 months or 15 months." 6 Q Okay. That's not something shareholders 7 would be interested in? 8 A Yes, they would be, but it wasn't a critical 9 determinant in our decision to buy the property. 10 Q Well, isn't it true that you've represented 11 to your shareholders in public communications to 12 shareholders that, you know, you can be up and 13 running, and with 50 percent capacity, you'll be 14 generating \$20,000 a day in revenue? 15 A Statements similar to that have been made, 16 yes. 17 Q Did you explain to the shareholders why you 18 chose the site for any other reason than the 19 50 percent capacity equals \$20,000 a day? 20 A Yes. I believe we explained to them two and 21 a half years ago when we made this decision the 22 general factors that I've been discussing this 23 morning. 24 Q What about in more recent communications to 25 your shareholders, have you made any mention about</p>
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<p>1 Q I'm going to be jumping around just a bit. 2 When you're third in line, a lot of issues have 3 already been covered, and I don't want to take 4 anyone's time if I don't have to. 5 You mentioned just briefly a moment ago 6 that time to profitability was not an important factor 7 in the Montgomery County site. Is that correct? 8 A That's what I said. Yes. 9 Q Okay. You're a publicly traded company. 10 Right? 11 A Yes. 12 Q And you have hopes of being registered on the 13 New York Stock Exchange or NASDAQ or one of the major 14 markets? 15 A Yes. 16 Q And you're actually beginning to initiate 17 plans to do that? 18 A Yes. 19 Q Are you saying, then, that as the president 20 and CEO of a publicly traded company, the 21 profitability of your shareholders is not a concern 22 when -- 23 A No. I'm not saying that. I think the 24 question addressed to me by Mr. Walker was "Was it 25 very important in our decision to acquire the</p>	<p>1 anything other than the revenue that you can generate 2 from this site? 3 A I only recall one instance where we made that 4 reference. In other statements to our shareholders, 5 we've talked mostly about the timing, giving them 6 status reports on the approval of the permit and all 7 the consequent activities that have gone on with the 8 preliminary hearing and hearing. 9 Q So the timing of getting the process 10 completed is important? 11 A To that extent, yes. Keeping our 12 shareholders advised of when we expect a permit to be 13 issued, if it will be issued. 14 Q Does the facility -- in your definition that 15 we're talking about, does that include the storage 16 tanks, or are the storage tanks separate from the 17 facility itself? 18 A No. They're included in the definition of 19 facility. 20 Q Are there storage tanks already out at the 21 site? 22 A There's a couple of tanks that are being 23 stored there just because it's a place to put them. 24 Q Are they going to be used as part of the 25 facility?</p>

30 (Pages 114 to 117)

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<p style="text-align: right;">Page 118</p> <p>1 A They may or may not be. I haven't decided 2 that yet. 3 Q Okay. So the process of getting the facility 4 underway has already begun? 5 A No. No. 6 Q So the tanks, for sure, are not going to be 7 used at this facility? 8 A They may or may not be. We were able to buy 9 those tanks at a favorable price. We purchased them. 10 We needed a place to store them. We have 27 acres of 11 property being unused. I think we have a right to put 12 on that property any of our assets -- 13 Q Okay. You said -- 14 A -- as long as we're not operating anything. 15 Q You were saying the property was unused, but, 16 actually, TCEQ requires you to treat the property as 17 an active site. Correct? 18 A To treat the well as if it were an active 19 site, yes. 20 Q So the property is being used? 21 A In that sense, all right, yes. There's no 22 operational activities in progress, however. In that 23 sense, it's not being used. 24 Q Well, other than a couple of storage tanks 25 being --</p>	<p style="text-align: right;">Page 120</p> <p>1 show the location and the layout of the facility, 2 which includes the tanks, the piping, the pumps and 3 all the other equipment that constitutes the facility. 4 And in that drawing, it indicates where trucks will be 5 parked, discharged, turn around and exit. 6 Q (By Mr. Forsberg) Okay. So the truck pulls 7 up and an employee of TexCom greets the trunk. Is 8 that correct? 9 A Yes. When it comes in the gate, the driver 10 will have to identify himself and the source of 11 generation of the wastewater, and he has to provide 12 certain documentations to us, certificates of 13 analysis, representations of what's in the truck. 14 Q Okay. Who at TexCom will actually test the 15 materials that are on the truck? 16 A A laboratory chemist, part of the staff. 17 Q And there will be -- 18 A Full-time employee on site. 19 Q There will be this laboratory chemist on site 20 for every delivery? 21 A Yes. 22 Q What type of test are they going to perform? 23 A A whole range of tests to confirm that the 24 material is what it is represented to be, to check for 25 compatibility with formation itself and to check for</p>
<p style="text-align: right;">Page 119</p> <p>1 A Storage. 2 Q -- put there that may or may not be used. 3 A Correct. 4 Q So a tanker full of material wastewater, 5 whatever you want to call it, pulls up to your 6 facility, and it enters a gate. 7 A Yes. 8 Q Is that correct? 9 And then where does it proceed from 10 there? 11 MR. RILEY: I'm only objecting 12 because -- are we asking a hypothetical or in the 13 future if the facility is permitted or present tense? 14 JUDGE WALSTON: I was about to ask the 15 same question. You're talking about once it's 16 permitted. Is that -- 17 MR. FORSBERG: Correct, assuming a 18 permit, of course, is allowed. 19 JUDGE WALSTON: Once it's permitted and 20 constructed, if that occurs -- 21 MR. FORSBERG: Correct. 22 JUDGE WALSTON: -- the facility is in 23 operation. 24 MR. FORSBERG: Correct. Yes, sir. 25 A There are exhibits in the application which</p>	<p style="text-align: right;">Page 121</p> <p>1 compatibility with other wastewaters that have already 2 been injected into the formation. All that is 3 described in general terms in the application. 4 Q Correct. But you're a chemist. Correct? 5 A Yes. 6 Q So I'm asking you these questions. You said 7 you have knowledge of all of this and you're a 8 chemist. So I assume you can answer these types of 9 questions. 10 A Uh-huh. 11 Q You said they performed a litany of tests. 12 How long does this take? 13 A I don't know exactly. 14 Q Are these tests you've never performed in 15 your career as a chemist? 16 A May or may not be. It depends on what's in 17 the wastewater. 18 Q Well, it depends on what someone tells you is 19 in the wastewater. Right? 20 A In part, but also on a general screening 21 methodology that our on-site laboratory chemist will 22 conduct. 23 Q What's the minimum amount of time it can take 24 to test this material? 25 A I would say one to two hours.</p>

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<p>1 Q So is it your position that there's going to</p> <p>2 be -- that every time a tanker drives in to your</p> <p>3 facility, that they're going to need to be parked</p> <p>4 there for one to two hours at minimum?</p> <p>5 A Usually.</p> <p>6 Q Okay. And at the rate of -- I believe you've</p> <p>7 represented previously that, you know, you could --</p> <p>8 per well, you could approximately get 11,000 barrels a</p> <p>9 day of disposal.</p> <p>10 A Each well is permitted at 350 gallons per</p> <p>11 minute, the maximum injection rate. It's equivalent</p> <p>12 to about 12,000 barrels a day.</p> <p>13 Q Okay.</p> <p>14 A If it were operated 24 hours a day</p> <p>15 continuously.</p> <p>16 Q And that's for one well.</p> <p>17 A That's correct.</p> <p>18 Q So if -- how many trucks can offload at one</p> <p>19 well at a time?</p> <p>20 A They don't offload into the well. They</p> <p>21 offload into the storage tanks.</p> <p>22 Q How many trucks can offload into the storage</p> <p>23 tanks at a time?</p> <p>24 A Again, that's in the application. If I</p> <p>25 recall, there -- in the drawings, you'll see that. I</p>	<p>1 Q One hour, ten hours, 24 hours?</p> <p>2 A Twenty minutes.</p> <p>3 Q So the --</p> <p>4 A Plus, the trucks delivering this water</p> <p>5 contain anywhere from 40 barrels to 120 barrels. The</p> <p>6 size of the pumps we're using also is -- determines</p> <p>7 how quickly they can be discharged.</p> <p>8 Q Who is your lab chemist that's going to be</p> <p>9 doing this testing?</p> <p>10 A We haven't identified or hired one yet.</p> <p>11 Can't hire people before we have a permit with nothing</p> <p>12 to do.</p> <p>13 Q Do you have experts retained in this case who</p> <p>14 could do that work now?</p> <p>15 A I'm sorry. Could you say that again?</p> <p>16 Q I'm sorry. Strike that.</p> <p>17 What is your Class I industrial</p> <p>18 wastewater disposal initiative?</p> <p>19 A What do you mean by "initiative"?</p> <p>20 Q You have a letter that you wrote to your</p> <p>21 investors that refers to TexCom's commercial Class I</p> <p>22 industrial wastewater disposal initiative.</p> <p>23 A Just meant implementation of the project,</p> <p>24 obtaining the permit, building out the site and</p> <p>25 opening up for commercial operation.</p>
Page 123	Page 125
<p>1 think there are three truckloading spots.</p> <p>2 By the way, to amplify my earlier</p> <p>3 response to you, all the testing of the water that is</p> <p>4 in the tank truck when it arrives are not done while</p> <p>5 the truck waits. Certain critical tests will be done</p> <p>6 before the material is discharged in the storage tank</p> <p>7 and additional testing in the laboratory will be done</p> <p>8 while the material is in the tank.</p> <p>9 Q Well, aren't the materials from the trucks</p> <p>10 being mixed in the tank with materials from other</p> <p>11 trucks?</p> <p>12 A Not necessarily. There's multiple tanks.</p> <p>13 Q But you hope they are, aren't you, because</p> <p>14 that means you're doing a higher volume of business?</p> <p>15 A No. Not necessarily. If it's required that</p> <p>16 they be segregated to ensure compatibility, then</p> <p>17 they'll be segregated.</p> <p>18 Q How long does it take to unload a tank -- one</p> <p>19 trunk into your storage tank?</p> <p>20 A I don't recall.</p> <p>21 Q Can you guess?</p> <p>22 A No.</p> <p>23 Q You have no idea?</p> <p>24 A I can't recall. It depends on the size of</p> <p>25 the pump.</p>	<p>1 Q Now, is this initiative just referring to one</p> <p>2 site?</p> <p>3 A Yes. It's referring to this specific site,</p> <p>4 sir.</p> <p>5 Q Now, you say that there is some kind of</p> <p>6 filtration system to get solids out of the material.</p> <p>7 A Yes, there will be.</p> <p>8 Q What kind of filtration system is that?</p> <p>9 A I think -- and, again, I'm -- don't recall</p> <p>10 exactly. It's included in the application. It will</p> <p>11 either be cartridge filters or filter presses.</p> <p>12 Q And what happens to the materials that are</p> <p>13 captured by those filter presses?</p> <p>14 A Those are collected from time to time when</p> <p>15 the filters or the presses reach capacity, and they</p> <p>16 will be removed from the site and disposed of at a</p> <p>17 permitted landfill.</p> <p>18 Q And where, specifically -- do you know --</p> <p>19 what landfill are these going to be --</p> <p>20 A I have not chosen them yet.</p> <p>21 Q What are your choices?</p> <p>22 A Whatever is in the economically transportable</p> <p>23 distance. I can't identify them for you by name</p> <p>24 today.</p> <p>25 Q So you haven't taken into consideration where</p>

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<p style="text-align: right;">Page 126</p> <p>1 you're going to actually dispose of this solid waste 2 generated by your facility. 3 A We don't know exactly -- or we have not 4 identified which specific land site -- landfill we 5 would bring it to. No. 6 Q Okay. And you can't even give me a list in 7 there -- a list of narrowed-down choices? 8 A I can't. No. 9 Q So when you say your site doesn't generate 10 waste, well, in reality, there is waste being removed 11 from the site collected in cartridges? 12 A That's correct. If there's any solid 13 materials in the incoming wastewater that we filter 14 out, that will constitute waste that's removed from 15 the site. 16 Q Can you accept acids and toxics at this site? 17 A Only if they're diluted and if they're within 18 the specified pH range. 19 Q If you could -- Mr. Walker had referred you 20 to Page 6 of your prefiled testimony. I just wanted 21 to clarify one point. 22 A Yes, sir. 23 Q On Line 23, you state, "Of course paint 24 thinner and antifreeze are toxic and we would not be 25 permitted to accept them."</p>	<p style="text-align: right;">Page 128</p> <p>1 Q But it's still antifreeze. 2 A It's still antifreeze. Yes. 3 Q I mean, I'm not a chemist, obviously, but if 4 you have two glasses and one is full of antifreeze and 5 one is full of water with a drop of antifreeze, 6 there's still antifreeze in both glasses. 7 A There's a low concentration in the second 8 glass, yes. 9 Q But, yes, there's still antifreeze in both 10 glasses? 11 A Some antifreeze, yes. 12 Q Okay. Is there a lab in this surface 13 facility? 14 A Yes. 15 Q Who's in charge of constructing this 16 laboratory? 17 A We haven't chosen a contractor yet. 18 Q Switching gears a little bit, Mr. Gershon had 19 discussed with you a little bit about a lawsuit that's 20 been filed with regards to Wapiti Energy. 21 A Yes. 22 Q Is it your understanding that in order for 23 the permits to be issued, you have to show that you're 24 not causing harm to mineral interest of others? 25 A Is it my understanding that I have to show --</p>
<p style="text-align: right;">Page 127</p> <p>1 A Uh-huh. 2 Q Are you referring to pure antifreeze? 3 A Yes. 4 Q Okay. So you're not saying that you couldn't 5 accept the antifreeze. You're saying you couldn't 6 accept pure antifreeze. 7 A Or antifreeze that's above a level that makes 8 it hazardous. 9 Q Okay. 10 A We could only accept wastewater that contains 11 low levels of antifreeze that's below the toxicity 12 level. 13 Q Okay. Well, if you read Lines 24 through 26, 14 it says, "We would be permitted to accept water that 15 had been in contact and may contain very low 16 concentrations of them," referring to antifreeze and 17 paint thinner. That doesn't seem to line up with the 18 statement that "Of course paint thinner and antifreeze 19 are toxic, and we would not be permitted to accept 20 them." Those statements seem opposite to me. 21 A Okay. Well, as I've just tried to explain, 22 if wastewater had been in contact with antifreeze and 23 contained, in my example earlier, four parts per 24 million, I don't believe that exceeds the toxicity 25 level. It would be classified --</p>	<p style="text-align: right;">Page 129</p> <p>1 that's the ruling from the Railroad Commission, sir. 2 Q Okay. 3 A Yes. 4 Q Do you not believe that you have any burden 5 of showing that there's no damage done to any mineral 6 resources by your operation? 7 A No. I believe we do have that burden. 8 Q Okay. And Wapiti has alleged that they are 9 the owners of mineral resources that will be damaged. 10 MR. RILEY: Objection. 11 JUDGE WALSTON: Wait. 12 What's the objection? 13 MR. RILEY: The objection is that it's 14 irrelevant to this proceeding. 15 JUDGE WALSTON: How is it relevant? 16 MR. FORSBERG: Your Honor, with regards 17 to the provision of the statute that says, I believe, 18 specifically, they have to show that the mineral 19 interests are not harmed, I'm going to the issue of 20 they can't show it because the issue of mineral 21 interest is still in play with regards to the claims 22 of Wapiti Energy. 23 JUDGE WALSTON: Okay. Yeah. I thought 24 that was part of a Railroad Commission proceeding 25 as --</p>

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<p style="text-align: right;">Page 130</p> <p>1 MR. RILEY: I believe it is. That is a 2 lawsuit that Wapiti has brought, as has been testified 3 to earlier, but the allegations of Wapiti are not 4 evidence of anything, and the fact that the lawsuit 5 was filed within the last several weeks, is my 6 recollection, is not by any means resolved. 7 JUDGE WALSTON: Okay. Mr. Forsberg, 8 I've now forgotten what your question was. What -- do 9 you want to restate your question? Then I can rule on 10 it. 11 Q (By Mr. Forsberg) Dr. Ross -- and I'll 12 rephrase it. Maybe that will help. Is the issue -- 13 let me actually -- do you own -- does TexCom own the 14 mineral interests of the property out there? 15 A No. 16 Q Who owns them? 17 A The unified lease for the whole area was held 18 by Exxon, and my recollection, from what I was told, 19 is they obtained that unified lease in 1977. When we 20 were contacted by Wapiti, they informed us that they 21 acquired or purchased those unified lease rights from 22 Exxon in September of 2006. 23 Is that the answer to your question, 24 sir? 25 Q Is it your answer that Wapiti -- that it's</p>	<p style="text-align: right;">Page 132</p> <p>1 Q How do you know that Montgomery County is 2 going to be more convenient a location for the 3 customers who are currently using the Liberty County 4 site? 5 A In my example, it's based on the distance. 6 We were talking about the Huntsman Chemical plant, 7 which is about 1.2 miles away from our proposed site. 8 Q Okay. And that was one example. 9 A Uh-huh. 10 Q But there are going to be -- is it not likely 11 that you're going to have several generators from 12 Pasadena, south of Houston, in that sector who are 13 going to be delivering to -- 14 A There might be. Yes. 15 You're referring to generators in 16 Montgomery County, sir? 17 Q No. I'm referring to all generators that 18 would be bringing to the site. 19 A Okay. 20 Q And you're certainly going to market to sites 21 outside of Montgomery County, aren't -- 22 A Yes, we will. 23 Q -- you? Generators. 24 And you already have to some extent, 25 haven't you?</p>
<p style="text-align: right;">Page 131</p> <p>1 your understanding that Wapiti -- 2 A My understanding, that Wapiti owns the 3 mineral rights. Yes. 4 MR. RILEY: And I'm going to renew my 5 objection and refer to TCEQ Statute 27 -- Texas Water 6 Code 27.015(b), which states, "In a hearing on an 7 application for disposal well permit under this 8 chapter, the commission may not proceed to hearing on 9 any issues other than preliminary matters such as 10 notice until the letter required from the railroad 11 commission under Subsection (a) of this section is 12 provided to the commission." 13 The Railroad Commission hasn't provided 14 that letter, and, clearly, we are past the TCEQ's 15 authority in discussing mineral interests and mineral 16 rights. 17 JUDGE WALSTON: Let's see what other 18 questions Mr. Forsberg has, but I agree with you, I 19 don't believe mineral interests -- 20 MR. FORSBERG: I'm moving on to another 21 issue, Your Honor. 22 Q (By Mr. Forsberg) I believe you stated 23 earlier that there's a facility in Liberty County that 24 can accept this type of material. 25 A Yes.</p>	<p style="text-align: right;">Page 133</p> <p>1 A No. 2 Q You haven't advised any of your current 3 customers at your Class II facilities that you're 4 going to have a Class I facility? 5 A It's a matter of public knowledge because of 6 the publications that we've made. 7 Q Right. But have you provided -- have you 8 specifically told any customers, that, "We're going to 9 have a Class I facility in Montgomery County"? 10 A Customers from our other -- 11 Q Class II facilities, yes. 12 A To my knowledge, no. I don't know that we've 13 done that. 14 Q So if they don't know that a class -- 15 A Sir, to clarify that, our customers at the 16 Class II site are independent and other types of 17 drillers in the oil and gas industry. They do not 18 generate Class I non-hazardous industrial wastewater. 19 Q Well, don't companies like Anadarko and 20 several other companies deliver Class II materials out 21 there to Liberty County? 22 A I don't know if they do or not. If they do, 23 they're delivering it to Class II disposal sites 24 permitted by the Railroad Commission. 25 Q You've never represented to anyone that</p>

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<p style="text-align: right;">Page 134</p> <p>1 TexCom has customers like ConocoPhillips and Chevron 2 and Anadarko? 3 A No. Of course we have. 4 Q And you're saying they don't generate any 5 Class I waste? 6 A We're -- that statement is in reference to 7 Class II wastewater that's generated from oil and gas 8 exploration or production activity. 9 Q Right. But are you saying -- 10 A It has nothing to do with the Conroe site for 11 the Class I well. 12 Q But I'm asking: Do you know for sure that 13 Conoco, Chevron, Anadarko do not produce Class I 14 waste? 15 A I don't know for sure that they do not. My 16 expectation is, in other divisions, departments or 17 operations of those large corporations, they generate 18 Class I wells, particularly in their refining and in 19 their petrochemical operations. But in their 20 exploration and production activities, they do not. 21 They generate Class II water. 22 Q How many miles is it from the proposed 23 Montgomery County site to the Liberty County site? 24 A Which Liberty County site, sir? 25 Q The one where Class I materials could be</p>	<p style="text-align: right;">Page 136</p> <p>1 Four Corners. Is that your question? 2 Q Yes. 3 A Just look on a map, sir. It's further away. 4 Q Okay. You're positive that there's no point 5 in Montgomery County that could -- 6 A Oh, no. 7 Q -- generate waste -- 8 A No. No. 9 Q -- that would be closer to Liberty County 10 than Montgomery County? 11 A No. I can't say that. And I said I did not 12 know. If you go to that edge of the county, yes, it 13 may be that it's, in fact, closer to that site -- 14 Q Okay. 15 A -- for that particular location. 16 Q So, in fact, you can't say you're more 17 convenient for the entire county of Montgomery. 18 A No, and I don't think I made that statement. 19 Q I'm just trying to clarify. I'm not trying 20 to mischaracterize what you said. I'm just trying to 21 state that it's quite possible that another facility 22 could be more convenient to waste producers in 23 Montgomery County. 24 A As I recall, I made that statement in 25 reference to the Huntsman Chemical plant when I was</p>
<p style="text-align: right;">Page 135</p> <p>1 disposed of. 2 A You mean owned by a third party? 3 Q Or owned by a subsidiary of TexCom. 4 A We don't have a Class I wastewater well -- or 5 wastewater disposal site in Liberty County. 6 Q Correct. But there's a site there that you 7 said could accept Class I material. 8 A Correct, owned by a third party. 9 Q Okay. Well, who's that third party? 10 A Environmental Processing Systems. 11 Q How many miles from that facility to the 12 proposed Montgomery County facility? 13 A I don't know. 14 Q Then how do you know it's more convenient to 15 come to the Montgomery County facility than it is to 16 go to the Liberty County facility, other than for 17 Huntsman which is a mile down the road? 18 A I know, obviously, it's farther away, but I 19 don't know exactly how many miles, if that's what 20 you're asking me. 21 Q Farther away from who? 22 A You're asking me if the existing Class I 23 permitted site in Liberty County owned by a third 24 party is closer or farther away to a generator in 25 Montgomery County than our proposed site would be at</p>	<p style="text-align: right;">Page 137</p> <p>1 discussing with Mr. Gershon. And, clearly, 1.2 miles 2 distance is closer than approximately 60 miles to 3 Liberty. 4 Q But you have no idea what percentage of 5 waste -- of total waste that TexCom would accept at 6 this facility that you're proposing would come from 7 Huntsman? 8 A No. 9 Q It could be a tenth of a thousandth of a 10 percent? 11 A Yes. I have no idea. 12 Q So is there any other company that you can 13 show close by that is going to be delivering any 14 majority of the waste? 15 A Well, I mentioned the fact that we have a 16 compilation of all Class I non-hazardous wastewater 17 generators in Montgomery County. 18 Q That you can't tell me today? 19 A No. I don't have it in my possession. 20 Q Okay. And you haven't actually marketed your 21 services to any of those companies? 22 A No, we have not. 23 Q So they could just say, "No. We're fine with 24 who we have"? 25 A That's right.</p>

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<p style="text-align: right;">Page 138</p> <p>1 Q And, in fact, I haven't seen any testimony 2 from any executives from these companies stating that 3 they really need this facility in Montgomery County in 4 order to survive economically. Is that right? 5 A I haven't either. 6 Q And you're not offering any testimony -- 7 applicant is not offering any testimony with regards 8 to any of these entities being so in need of this 9 service that this facility is really necessary? 10 A No, we're not. 11 Q I imagine if they were knocking down your 12 door, we'd be hearing from them, wouldn't we? 13 MR. RILEY: Objection. 14 MR. FORSBERG: Withdrawn. 15 Q (By Mr. Forsberg) I believe you said that 16 your -- recently, Texas Gulf Disposal has sold a 17 membership to a company called Foxborough. 18 A That's right. 19 Q What industry is Foxborough in? 20 A It's an investment company in energy 21 business. 22 Q As part of their membership interest, are 23 they going to have any rights or say about the 24 operations of Gulf -- TexCom Gulf Disposal? 25 A Yes.</p>	<p style="text-align: right;">Page 140</p> <p>1 Q So just to clarify, you have no idea what the 2 environmental record is of Foxborough? 3 A No. 4 Q Okay. And they will have the ability to make 5 decisions with regards to how TexCom operates its 6 business? 7 A Well, participate in decisions as a joint 8 venture partner. 9 Q They're a joint venture partner. Correct? 10 A Uh-huh. Yes. 11 Q Do you have any intention of selling this 12 facility after you have it constructed? 13 A No. 14 Q I believe TexCom, the parent company, 15 recently sold a facility in which it had an equity 16 partner and ended up selling the facility to that 17 equity partner. Is that correct? 18 A Yes. 19 Q And that was your biodiesel plant in Seaport 20 or -- 21 A Seabrook -- 22 Q Seabrook. 23 A -- Texas. Yes. The answer is yes. 24 Q Is there a percentage that you can give to 25 what this membership means in its partnership? I</p>
<p style="text-align: right;">Page 139</p> <p>1 Q And what are those rights that they're going 2 to have in what TexCom does? 3 A Part of the management and part of the Board. 4 Q And what experience do they have in Class I 5 underground injection wells? 6 A They have experience in Class II wastewater 7 injection wells, but they do not have an existing 8 operation in Class I disposal. 9 Q Okay. Where are their Class II well or wells 10 located? 11 A Oklahoma and North Texas. 12 Q What is their environmental history with 13 regards to facilities they've been in charge with? 14 A I don't know. 15 Q Do you think that would be an important 16 consideration in bringing on a company as a member? 17 A It would be, but they're coming in as a 18 partner here to provide financing and funding for the 19 commercial implementation of this project should the 20 permits be issued. We're not bringing them in with 21 any reliance on their technical expertise or 22 experience in handling disposal wells. 23 Q Is their coming in contingent upon these 24 permits being issued? 25 A No.</p>	<p style="text-align: right;">Page 141</p> <p>1 mean, are they 50 percent partners, 30 percent 2 partners? 3 A They'll be 60 percent partners. 4 Q So Foxborough is going to be the majority 5 partner. 6 A That's correct. 7 Q How many people from Foxborough are going to 8 be offering testimony in this matter? 9 MR. RILEY: Objection. 10 JUDGE WALSTON: You've got the witness 11 list. The witnesses have all been designated; so 12 that's kind of an argumentative question. 13 MR. FORSBERG: Although, I would ask 14 that counsel, when he raises an objection, actually 15 states what the basis of the objection is. 16 MR. RILEY: And I would ask that counsel 17 follow the rules that are normally adhered to in 18 district court, which is, if the Judges need a basis 19 of objection, the Judges would ask me for a basis. 20 JUDGE WALSTON: Well, let's don't argue 21 back and forth. The objection is sustained. 22 Ask your next question. 23 Q (By Mr. Forsberg) How long has Foxborough 24 been in business? 25 A I don't know exactly.</p>

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Page 142	<p>1 Q Who is -- who are the owners of Foxborough?</p> <p>2 MR. RILEY: Objection, relevance.</p> <p>3 MR. FORSBERG: The owners of the</p> <p>4 60 percent majority of TexCom -- I mean, it seems</p> <p>5 relevant to know who actually owns these entities.</p> <p>6 MR. RILEY: It is a legal entity that</p> <p>7 has an ownership interest is my response, and that's</p> <p>8 been explained by the witness.</p> <p>9 JUDGE WALSTON: Okay. I'll overrule the</p> <p>10 objection and allow the witness to answer, if you can.</p> <p>11 A And the question was "Who are" --</p> <p>12 JUDGE WALSTON: Owners of Foxborough.</p> <p>13 A It's a privately-held investment fund and</p> <p>14 I've been asked by them not to disclose their names.</p> <p>15 MR. RILEY: And I'd ask that unless</p> <p>16 there's some relevance to who those owners are, that</p> <p>17 that confidentiality be respected.</p> <p>18 JUDGE WALSTON: Frankly, I think the</p> <p>19 question does have dubious relevance. In that light,</p> <p>20 I'll sustain the objection.</p> <p>21 A Although you're not asking me the question,</p> <p>22 Mr. Forsberg --</p> <p>23 MR. RILEY: No.</p> <p>24 A No. Okay.</p> <p>25 Q (By Mr. Forsberg) Did Foxborough play any</p>	Page 144	<p>1 AFTERNOON SESSION</p> <p>2 WEDNESDAY, DECEMBER 12, 2007</p> <p>3 (1:02 p.m.)</p> <p>4 JUDGE EGAN: We're back on the record.</p> <p>5 Mr. Forsberg, I can't see you real well</p> <p>6 over the podium -- thank you.</p> <p>7 MR. FORSBERG: Yes.</p> <p>8 JUDGE EGAN: You may proceed with your</p> <p>9 cross-examination.</p> <p>10 MR. FORSBERG: Thank you, Your Honor.</p> <p>11 PRESENTATION ON BEHALF OF THE APPLICANT (CONTINUED)</p> <p>12 LOUIS ROSS, Ph.D.,</p> <p>13 having been previously duly sworn, testified as</p> <p>14 follows:</p> <p>15 CROSS-EXAMINATION (CONTINUED)</p> <p>16 BY MR. FORSBERG:</p> <p>17 Q Mr. Ross, when you were -- when TexCom was</p> <p>18 going through the process of its application, how much</p> <p>19 consideration was given to traffic issues related to</p> <p>20 the operation of your facility if the permits were</p> <p>21 granted?</p> <p>22 A We gave some consideration to that. We, of</p> <p>23 course, visited the site on numerous occasions and we</p> <p>24 did some assessment of what was the traffic level on</p> <p>25 FM 3083 and in the general area and on the residential</p>
Page 143	<p>1 role in preparing applications --</p> <p>2 A No.</p> <p>3 JUDGE WALSTON: Doctor, let him finish</p> <p>4 his question.</p> <p>5 A I'm sorry.</p> <p>6 Q (By Mr. Forsberg) Did anyone with Foxborough</p> <p>7 participate in any way in providing the submission of</p> <p>8 information to TCEQ?</p> <p>9 A No.</p> <p>10 Q Although they will benefit by having a</p> <p>11 majority ownership in TexCom if TCEQ grants the</p> <p>12 permits?</p> <p>13 A Yes.</p> <p>14 Q I'm going to switch issues again rather</p> <p>15 abruptly.</p> <p>16 JUDGE WALSTON: Do you know how much</p> <p>17 more you're going to have? Because it's the noon</p> <p>18 hour.</p> <p>19 MR. FORSBERG: I might have 30 to 45</p> <p>20 minutes.</p> <p>21 JUDGE WALSTON: Okay. Then why don't we</p> <p>22 go ahead -- we'll go off the record and we'll break</p> <p>23 for lunch at this time.</p> <p>24 (Lunch recess: 12:04 p.m. to 1:02 p.m.)</p> <p>25</p>	Page 145	<p>1 streets going by. We did not hire any kind of a</p> <p>2 consulting firm to do a detailed traffic study,</p> <p>3 however.</p> <p>4 Q Are you a trained traffic engineer?</p> <p>5 A No.</p> <p>6 Q But you feel comfortable with your review and</p> <p>7 your observations with regards to the traffic around</p> <p>8 the facility that there won't be an issue?</p> <p>9 A We felt that and we still feel that, yes.</p> <p>10 Q So you don't think it's necessary to have a</p> <p>11 laundry list of degrees in order to offer an opinion</p> <p>12 regarding traffic?</p> <p>13 A No.</p> <p>14 Q How long did you spend out at the site when</p> <p>15 you were reviewing the traffic issues?</p> <p>16 A We were at the site multiple times, of</p> <p>17 course, prior to and after acquiring the property. I</p> <p>18 can't give you an answer to that question because we</p> <p>19 didn't go on one occasion and spend that time</p> <p>20 exclusively on studying traffic.</p> <p>21 Q Would that be considered a minor detail in</p> <p>22 regards to other details with regard -- compliance</p> <p>23 issues?</p> <p>24 A No. We considered it to be significant with</p> <p>25 respect to how it might affect the local community; so</p>

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<p style="text-align: right;">Page 146</p> <p>1 we didn't underplay its importance. 2 Q All right. Did you ever take any -- or ever 3 do any counts on the number of commercial vehicles 4 traveling on any roads adjacent to the facility? 5 A No, we did not. 6 Q I believe you provided some testimony on Page 7 27 of your prefiled testimony at Line 18. 8 A Yes. 9 Q You say: "The trucks that do visit our site 10 are expected to use FM 3083, not Creighton Road or any 11 other residential streets." Is that correct? 12 A Yes. 13 Q On what do you base that conclusion? 14 A Well, as you may be aware from looking at the 15 plot plan of our property, we do have access to 16 Highway 3083, approximately 72 feet, I think, of 17 frontage. And although the current gate to the 18 property is on Creighton Road, that's just temporary. 19 If we were given the permit and if we build out the 20 facility, we will create entrance and exit from the 21 property onto 3083 directly. 22 Q Okay. 23 A Furthermore, I'd like to say that considering 24 the width of Creighton Road, to use an example, and 25 the fact that it makes two 90 degree turns and the</p>	<p style="text-align: right;">Page 148</p> <p>1 trucks. 2 Q Thank you. These are not, in fact, your 3 trucks bringing this material to your site. 4 A No. That's correct. They're not. 5 Q Okay. So you don't have any control over how 6 truck drivers choose what roads to drive on. 7 A Not complete control, but we can make strong 8 recommendations to them. 9 Q And how would you make strong recommendations 10 to truck drivers? 11 A Tell them not to use Creighton Road, again, 12 to use my example, or any other residential streets in 13 the area. 14 Q Have you prepared some sort of document that 15 you're going to provide to truck drivers with regards 16 to that instruction? 17 A Not yet. No. That would be something we'd 18 prepare while the site is under construction in 19 preparation for opening. 20 Q Who would prepare that document? 21 A The people who are managing the operation. 22 Q And what is the penalty if the truck driver 23 doesn't follow that recommendation? 24 A We can't penalize him. We can only make 25 strong recommendations to him.</p>
<p style="text-align: right;">Page 147</p> <p>1 fact that it has a drainage ditch on both sides, I 2 can't imagine any trucker wanting to use that road 3 when 30 -- or 336, rather, is so close. 4 Q Do you have any experience in the trucking 5 industry? 6 A No. 7 Q So that's sort of a guess on your part, isn't 8 it? 9 A It's just an observation. 10 Q And I believe that you've stated previously 11 that -- or maybe your counsel has stated at some point 12 that these aren't your trucks. Right? 13 A No, they're not. 14 MR. RILEY: And, again, could we avoid 15 editorializing on the front end of the questions and 16 stick to just questions and answers? 17 MR. FORSBERG: There was no 18 editorializing. 19 JUDGE EGAN: I don't think he was trying 20 to editorialize. I just think he was concerned that 21 this witness might not have said it. 22 So proceed. 23 Q (By Mr. Forsberg) So -- I've forgotten my 24 question. 25 A You were going to ask if these were our</p>	<p style="text-align: right;">Page 149</p> <p>1 Q Also, on Page 27, Line 8, you make the 2 statement, "Further, although I understand that it is 3 beyond the scope of these proceedings, TexCom is a 4 financially solvent corporation and will be 5 responsible and a good neighbor." And I'm assuming 6 you include the traffic responsibility within that 7 statement. Is that fair? 8 A Yes. I would say so. A good neighbor in 9 every respect. 10 Q Okay. So as of the date that you prefiled 11 this testimony, you didn't even think traffic was an 12 issue in these proceedings. 13 A No. I didn't say that. I said even at the 14 time we went out and looked at the site before we 15 acquired it and were considering purchasing it and 16 making an application for the required permits, one of 17 the things we looked at was the location, vicinity, 18 the amount of businesses on 3083, the amount of truck 19 traffic on 3083. Although we did not do a 20 quantitative analysis of that, we did notice that 3083 21 has a number of industries and that there's regular 22 industrial truck traffic on the road. 23 Q But when you did that analysis and looked at 24 it, it wasn't in -- you didn't think it had anything 25 to do with these proceedings that we're here about</p>

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<p style="text-align: right;">Page 150</p> <p>1 today?</p> <p>2 A No. We weren't aware that there would be</p> <p>3 proceedings. I'm talking about first quarter of 2005.</p> <p>4 Q So you haven't looked at traffic since then?</p> <p>5 A Looked at it, but, as I said before, we have</p> <p>6 not commissioned a specific study.</p> <p>7 Q You just mentioned a moment ago about how you</p> <p>8 discussed that there was some industry in the area.</p> <p>9 Correct?</p> <p>10 A Yes.</p> <p>11 Q What industry is in the area near your site?</p> <p>12 A I'm talking about in the immediate area there</p> <p>13 are industrial properties on 3083.</p> <p>14 Q Okay. Specifically, can you identify any?</p> <p>15 A I can't recall the names, but, for example,</p> <p>16 just in the property adjacent to us, there's a company</p> <p>17 that provides oil field service equipment. I saw</p> <p>18 spools of coil tubing. I saw trucks, a truck yard.</p> <p>19 Trucks go in and out of that yard picking up</p> <p>20 equipment; obviously, delivering it to oil and gas</p> <p>21 activities in the area. Sorry. I don't know the</p> <p>22 name.</p> <p>23 Q And how many trucks did you -- are in the</p> <p>24 area?</p> <p>25 A We didn't take a count.</p>	<p style="text-align: right;">Page 152</p> <p>1 Q Does increased truck traffic going through</p> <p>2 school zones cause you any concern?</p> <p>3 A Yes, if that's the case, but I don't know</p> <p>4 whether it is or not.</p> <p>5 Q You don't think that was important to look at</p> <p>6 in looking at the increased traffic in the area?</p> <p>7 A There already is increased -- or heavy</p> <p>8 track -- not increase, but there is significant truck</p> <p>9 traffic on 3083 now.</p> <p>10 Q Okay. So adding --</p> <p>11 A We felt we would be adding just a minor</p> <p>12 increment to that.</p> <p>13 Q So you're only adding a minor increment to</p> <p>14 that?</p> <p>15 A Uh-huh.</p> <p>16 Q What is a "minor increment"?</p> <p>17 A If we started off our business, just to take</p> <p>18 an example, of 2 million gallons a month of water,</p> <p>19 that would require about ten trucks a day in and out</p> <p>20 of the facility, or one per hour on -- business being</p> <p>21 open for 10 hours each day.</p> <p>22 Q That's one -- that's just -- that's sort of a</p> <p>23 minimum start-up number, though --</p> <p>24 A Yes, it is.</p> <p>25 Q -- isn't it?</p>
<p style="text-align: right;">Page 151</p> <p>1 Q So on Page 3 of your testimony, when you say</p> <p>2 "There are businesses with truck yards on FM 3083</p> <p>3 within a few hundred feet of our property," you're not</p> <p>4 trying to imply that there is a constant stream of</p> <p>5 trucks going in and out?</p> <p>6 A No. I was trying to imply that this is not</p> <p>7 in the middle of a completely residential area.</p> <p>8 Although there are some residences in the area, it's</p> <p>9 predominantly industry on 3083.</p> <p>10 Q And just to clarify, you haven't looked into</p> <p>11 the issue of what increased truck traffic would</p> <p>12 ultimately result in regards to any damage to 3083 or</p> <p>13 local roads or anything like that?</p> <p>14 A Not in the sense of doing an engineering</p> <p>15 study that would show the impact on the pavement, if</p> <p>16 that's what you mean, sir.</p> <p>17 Q Yes.</p> <p>18 A No.</p> <p>19 Q Any study on traffic accidents?</p> <p>20 A No.</p> <p>21 Q When you saw commercial trucks go by, did you</p> <p>22 notice any school buses go by?</p> <p>23 A I can't recall.</p> <p>24 Q Are there schools in the area?</p> <p>25 A Certainly there must be. Yes.</p>	<p style="text-align: right;">Page 153</p> <p>1 It's certainly not what you hope the</p> <p>2 final outcome --</p> <p>3 A We hope to build it from that point, yes.</p> <p>4 Q And what is the maximum number of trucks per</p> <p>5 day if you're running at maximum capacity?</p> <p>6 A Do the math. I don't have a calculator here,</p> <p>7 but maximum --</p> <p>8 Q Your --</p> <p>9 A -- capacity is 12,000 barrels a day --</p> <p>10 JUDGE EGAN: One at a time, please.</p> <p>11 A Excuse me?</p> <p>12 JUDGE EGAN: One at a time, please.</p> <p>13 MR. FORSBERG: I'm sorry, Your Honor.</p> <p>14 JUDGE EGAN: The court reporter can't</p> <p>15 take you both down.</p> <p>16 A Probably -- well, if it's double that, it's</p> <p>17 18 trucks a day. The maximum capacity we have, as you</p> <p>18 know, is 12,000 barrels a day.</p> <p>19 Q (By Mr. Forsberg) So 18 trucks. Is that</p> <p>20 what you're saying the maximum number of trucks in and</p> <p>21 out per day would be?</p> <p>22 A No. I'd have to calculate if -- what you</p> <p>23 mean by maximum is injecting 350 gallons a minute for</p> <p>24 how many hours a day, sir?</p> <p>25 Q What is your number of hours you're going to</p>

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<p style="text-align: right;">Page 154</p> <p>1 be open to inject?</p> <p>2 A Ten hours a day.</p> <p>3 Q Okay.</p> <p>4 A I don't have a pencil and paper. I don't</p> <p>5 have a calculator. And I'm not that good at doing the</p> <p>6 numbers in my head to give you an accurate answer.</p> <p>7 Q Okay. So you did calculate the minimum at</p> <p>8 ten trucks a day, but you haven't done any calculation</p> <p>9 on what --</p> <p>10 A Yes, we have. I just can't recite them to</p> <p>11 you, sir.</p> <p>12 Q It's a lot more than ten. Right?</p> <p>13 A You can do the math as easily as I can. If</p> <p>14 it's 4 million, it's twice that number. If it's</p> <p>15 8 million, it's quadruple that number.</p> <p>16 Q The more trucks coming in, the more money</p> <p>17 TexCom makes. Is that fair?</p> <p>18 A I hope so. Yes.</p> <p>19 Q Is it common for UIC wells to be placed --</p> <p>20 Class I underground injection wells to be placed in</p> <p>21 residential areas?</p> <p>22 A I can't answer that question. I'm not</p> <p>23 qualified.</p> <p>24 Q Of the witnesses testifying on behalf of</p> <p>25 TexCom, who would I ask that question to who would be</p>	<p style="text-align: right;">Page 156</p> <p>1 predominantly industrial.</p> <p>2 Q If you look at the map that you've provided,</p> <p>3 which I believe you provided in the application and</p> <p>4 it's Exhibit No. 20, would you agree with me that the</p> <p>5 perimeter of the -- the perimeter around the TexCom</p> <p>6 facility is primarily residential?</p> <p>7 A No. The areas marked 12, 13 and 14 here are</p> <p>8 marked residential, but I know that there's some auto</p> <p>9 repair directly across from the entrance gate to our</p> <p>10 property. There's a residence there, but there's also</p> <p>11 a business being conducted at the same site.</p> <p>12 Q Okay. Would you agree with me that No. 2, 3,</p> <p>13 4, 5, 6, 8, 10, 15, 14, 13 and 12 are all marked</p> <p>14 "Residential" on the TexCom map?</p> <p>15 A They are marked that on this map, yes.</p> <p>16 Q Which would suggest, based upon the scale</p> <p>17 provided, that it's primarily residential surrounding</p> <p>18 the UIC facility.</p> <p>19 A Because if you look up in Section No. 1 going</p> <p>20 further north or to the northwest, that's all</p> <p>21 commercial. Properties on the other side of 3083 are</p> <p>22 predominantly commercial.</p> <p>23 Q I believe I was specifically referencing</p> <p>24 properties that boundary the proposed facility are</p> <p>25 primarily residential.</p>
<p style="text-align: right;">Page 155</p> <p>1 qualified?</p> <p>2 A Probably Mr. Greg Casey from ALL Consulting.</p> <p>3 Q Do you still have Exhibit No. 20 in front of</p> <p>4 you that was Lone Star Exhibit No. 20?</p> <p>5 A Yes, I do.</p> <p>6 Q If you can look at that just for a moment.</p> <p>7 A I have it.</p> <p>8 Q When was this application map completed?</p> <p>9 A At the time the application was being</p> <p>10 prepared in the second quarter of 2005.</p> <p>11 Q Has there ever been any update of this map by</p> <p>12 TexCom?</p> <p>13 A Not this particular map, but there have been</p> <p>14 updates to it identifying the names of the individuals</p> <p>15 who are in the residential properties.</p> <p>16 Q Have you looked to see if any of the</p> <p>17 properties that are marked "Undeveloped" have actually</p> <p>18 been developed into residential properties since 2005</p> <p>19 when this was created?</p> <p>20 A I only see one such area. That would be to</p> <p>21 the west where No. 11 is. It says "Undeveloped." And</p> <p>22 the answer to your question is "No."</p> <p>23 Q Would you consider the area around this</p> <p>24 proposed facility to be residential or industrial?</p> <p>25 A I consider it -- I consider it to be</p>	<p style="text-align: right;">Page 157</p> <p>1 A They number -- yes. All right. I will agree</p> <p>2 with that. Properties that bound our property to the</p> <p>3 east with the properties having frontage on 3083. I</p> <p>4 believe Property No. 5 is now commercial. I'm not</p> <p>5 certain without seeing the actual map.</p> <p>6 MR. FORSBERG: Thank you, Your Honor. I</p> <p>7 will pass the witness.</p> <p>8 JUDGE EGAN: Ms. Collins.</p> <p>9 MS. COLLINS: Yes. Thank you, Your</p> <p>10 Honor.</p> <p>11 CROSS-EXAMINATION</p> <p>12 BY MS. COLLINS:</p> <p>13 Q Mr. Ross, did you prepare any portion of the</p> <p>14 application?</p> <p>15 A No.</p> <p>16 Q I'm sorry. Dr. Ross.</p> <p>17 A No, I did not.</p> <p>18 Q Okay. So that means you didn't prepare the</p> <p>19 public interest demonstration in Section IX of the</p> <p>20 application either.</p> <p>21 A That was prepared by someone else.</p> <p>22 Q Okay. Was it prepared by Mr. Casey? Do you</p> <p>23 know?</p> <p>24 A In which application are you referring to,</p> <p>25 please?</p>

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<p style="text-align: right;">Page 158</p> <p>1 Q The UIC application.</p> <p>2 A That would have been Mr. Casey or one of the</p> <p>3 personnel on the staff of ALL Consulting.</p> <p>4 Q Okay. So your opinion, on Page 7 of your</p> <p>5 prefiled testimony, Lines 7 through 14, no practical,</p> <p>6 economic and feasible alternatives to injection exists</p> <p>7 for disposal, that's based on Mr. Casey's opinion.</p> <p>8 Correct?</p> <p>9 A No, not exclusively. That's my opinion as</p> <p>10 well.</p> <p>11 Q Okay. Did you prepare any sort of economic</p> <p>12 feasibility analysis to come up with that opinion?</p> <p>13 A I didn't prepare it myself. I was shown</p> <p>14 analyses done by others.</p> <p>15 Q Do you know who those analyses were done by?</p> <p>16 A I'm afraid I don't recall what that was.</p> <p>17 Q Okay. When you state that you don't consider</p> <p>18 other disposal methods to be practical and</p> <p>19 economically feasible for the TexCom site</p> <p>20 specifically, are you basing that on other commercial</p> <p>21 sites or disposal method -- other disposal methods at</p> <p>22 the TexCom site?</p> <p>23 A We were -- this response relates to a</p> <p>24 comparison of underground injection into UIC wells as</p> <p>25 compared to alternative methods of disposal, such as</p>	<p style="text-align: right;">Page 160</p> <p>1 Q Okay. You stated in response to -- I think</p> <p>2 it was Mr. Gershon, that Huntsman Chemical and</p> <p>3 Jefferson Chemical currently dispose of their</p> <p>4 wastewater via truck and then injection well.</p> <p>5 Correct?</p> <p>6 A Yes.</p> <p>7 Q Okay. And you know that for a fact, that</p> <p>8 they dispose of their waste via injection well?</p> <p>9 A Yes, and that was true up through Year 2006.</p> <p>10 I haven't checked it in recent months.</p> <p>11 Q Okay.</p> <p>12 A But I have no knowledge that they've changed</p> <p>13 their method of disposal.</p> <p>14 Q Okay. Do you know if any of the other</p> <p>15 potential clients that were listed in the application</p> <p>16 dispose of their waste via injection well?</p> <p>17 A Yes. In fact, that list constitutes a list</p> <p>18 taken from the TCEQ publications identifying</p> <p>19 generators of Class I non-hazardous industrial</p> <p>20 wastewater.</p> <p>21 Q But do -- for example, do any of the -- to</p> <p>22 your knowledge, do any of the potential clients on</p> <p>23 that list currently dispose of their wastewater via</p> <p>24 any other disposal method?</p> <p>25 A No. I don't know that.</p>
<p style="text-align: right;">Page 159</p> <p>1 depositing in a landfill or incineration or direct</p> <p>2 discharge to surface waters. And I see my statement</p> <p>3 in here was "I do not consider them to be practical</p> <p>4 and economically feasible." There's no reference in</p> <p>5 my statement to "technically superior," and that's</p> <p>6 really what I meant as well.</p> <p>7 Q In addition to?</p> <p>8 A In addition to what's stated there.</p> <p>9 Q Okay.</p> <p>10 A For example, depositing this type of water in</p> <p>11 a landfill to me is not as environmentally responsible</p> <p>12 as is injection into a deep injection well.</p> <p>13 Q Okay. And the comparison that you're doing</p> <p>14 for disposal methods, that's based on disposal methods</p> <p>15 generally?</p> <p>16 A Generically, yes.</p> <p>17 Q Generally. Is that right?</p> <p>18 A Generally, yes.</p> <p>19 Q So you didn't compare commercial disposal</p> <p>20 facilities to other commercial disposal facilities?</p> <p>21 A Individually, no, I did not.</p> <p>22 Q Okay. You stated, I think in response to</p> <p>23 Mr. Gershon, that Huntsman Chemical -- can you hear</p> <p>24 me?</p> <p>25 A Yes, I can.</p>	<p style="text-align: right;">Page 161</p> <p>1 Q Okay.</p> <p>2 A No.</p> <p>3 Q Do you know if commercial landfill operations</p> <p>4 exist within Montgomery County?</p> <p>5 A I was asked that question earlier, and I'm</p> <p>6 sorry, I can't identify the names or the exact</p> <p>7 locations of landfills in Montgomery County.</p> <p>8 Q I apologize. I recall --</p> <p>9 A I'm sorry. I didn't mean that. I just meant</p> <p>10 I don't know that answer. I'm sorry.</p> <p>11 Q Okay. And how about incineration facilities,</p> <p>12 you don't know if those exist commercially in --</p> <p>13 A No, I do not. I did not research that.</p> <p>14 Q You stated that TexCom will be able to inject</p> <p>15 350 gallons per minute of wastewater into the first</p> <p>16 well. Correct?</p> <p>17 A Yes.</p> <p>18 Q Or the facility, generally.</p> <p>19 A It's the facility in total. Cumulatively,</p> <p>20 yes.</p> <p>21 Q Okay. And stating that you didn't think any</p> <p>22 other disposal method -- disposal alternative was</p> <p>23 economically feasible, did you take into account the</p> <p>24 value of water generally in Texas?</p> <p>25 A Could you explain what you mean by "the value</p>

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<p style="text-align: right;">Page 162</p> <p>1 of water"?</p> <p>2 Q Sure. You're aware, for example, that</p> <p>3 there's a shortage of water in Texas.</p> <p>4 A Yes.</p> <p>5 Q Okay. And you're aware that water has an</p> <p>6 economic value.</p> <p>7 A Yes.</p> <p>8 Q Okay. Did you attempt to analyze economic</p> <p>9 feasibility or have you considered the ability to</p> <p>10 recycle or reuse any of the wastewater that's coming</p> <p>11 into TexCom?</p> <p>12 A No.</p> <p>13 MS. COLLINS: Okay. I think those are</p> <p>14 my questions. Thank you.</p> <p>15 JUDGE WALSTON: Thank you. I have one</p> <p>16 clarifying question because I may have misunderstood</p> <p>17 something she said.</p> <p>18 CLARIFYING EXAMINATION</p> <p>19 BY JUDGE WALSTON:</p> <p>20 Q Is it Huntsman Chemical on Jefferson Chemical</p> <p>21 Road?</p> <p>22 A Exactly.</p> <p>23 Q Is there a separate company called Jefferson</p> <p>24 Chemical?</p> <p>25 A No. The facility was originally constructed</p>	<p style="text-align: right;">Page 164</p> <p>1 A Your last question is "Will that first well</p> <p>2 be capable of that," and we do not know that yet</p> <p>3 because that test has not yet been conducted. We</p> <p>4 haven't injected water into the well.</p> <p>5 JUDGE EGAN: All right. Thank you.</p> <p>6 Mr. Williams.</p> <p>7 CROSS-EXAMINATION</p> <p>8 BY MR. WILLIAMS:</p> <p>9 Q Good afternoon, Dr. Ross. John Williams.</p> <p>10 There's been so many questions ahead of me, I may jump</p> <p>11 around a bit because I'm mainly just picking up on the</p> <p>12 details.</p> <p>13 I'm a little confused about timelines.</p> <p>14 You mentioned early on about an injunction involved</p> <p>15 with Well No. 310 -- at least I wrote down in my notes</p> <p>16 I heard injunction. Could you explain what that</p> <p>17 injunction involved, or are you aware of that?</p> <p>18 A No, I'm not. And I don't recall the</p> <p>19 reference you're making to injunction on Well 310 or</p> <p>20 315.</p> <p>21 Q I may -- 315. I may have misheard it then.</p> <p>22 But you acquired this property in 2005.</p> <p>23 Is that correct?</p> <p>24 A Yes.</p> <p>25 Q Okay. And it was -- the predecessor company,</p>
<p style="text-align: right;">Page 163</p> <p>1 and owned and operated by something called Jefferson</p> <p>2 Chemical Company.</p> <p>3 Q Okay. That's what I thought.</p> <p>4 A It was later acquired by Texaco Chemical,</p> <p>5 part of Texaco Oil Company, and then finally was</p> <p>6 acquired from Texaco by Huntsman Corporation.</p> <p>7 JUDGE WALSTON: Okay. Thank you.</p> <p>8 A Current owner and operator. The road is</p> <p>9 called Jefferson Chemical Road because the initial</p> <p>10 tenant was Jefferson Chemical Company.</p> <p>11 JUDGE WALSTON: Thank you.</p> <p>12 CLARIFYING EXAMINATION</p> <p>13 BY JUDGE EGAN:</p> <p>14 Q And let me just clarify something.</p> <p>15 350 gallons of water per minute is what the</p> <p>16 application states for all four wells if they're all</p> <p>17 up and running, but can the well that's in existence</p> <p>18 now manage that capacity on its own?</p> <p>19 A Yes, each well will be permitted to a maximum</p> <p>20 of 350 gallons a minute, and the cumulative injection</p> <p>21 of water from any one or two or three or four will</p> <p>22 be --</p> <p>23 JUDGE WALSTON: Combination.</p> <p>24 A -- also at 350.</p> <p>25 Q (By Judge Egan) Okay.</p>	<p style="text-align: right;">Page 165</p> <p>1 TCRI. Is that correct?</p> <p>2 A Yes.</p> <p>3 Q And there was some sort of settlement</p> <p>4 agreement between TCRI and the seller and the</p> <p>5 insurance company, and can you please describe the</p> <p>6 details of that settlement agreement.</p> <p>7 A And the other party was the TCEQ --</p> <p>8 Q Right.</p> <p>9 A -- was a party to that settlement agreement.</p> <p>10 Q Yeah.</p> <p>11 A The prior owner was under the name of</p> <p>12 Crossroads Environmental. The initial permit that we</p> <p>13 referred to repeatedly today was in the name of</p> <p>14 Crossroads Environmental as the applicant. That</p> <p>15 permit expired in February of 2004. The initial</p> <p>16 owner/developer of the property, the site and the</p> <p>17 patent, Crossroads Environmental, had gone bankrupt.</p> <p>18 The property, including the well, was taken over in</p> <p>19 foreclosure by a lender to Crossroads Environmental.</p> <p>20 That lender was called EarthCare Company, which was an</p> <p>21 environmental consulting company in Dallas. They</p> <p>22 themselves later went into bankruptcy proceedings.</p> <p>23 Throughout all that time, TexCom was interested in</p> <p>24 acquiring the property and developing a UIC disposal</p> <p>25 well site.</p>

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<p style="text-align: right;">Page 166</p> <p>1 When the permit expired in 2004, the 2 TCEQ notified EarthCare, who then had taken over 3 ownership to plug and abandon the well. EarthCare had 4 already started discussions with us and I believe 5 appealed to the TCEQ for an extension. It may have 6 been, in part, so that their bankruptcy proceedings 7 could be concluded, and, secondly, when that happened, 8 so that they could close a transaction with TexCom. 9 Q Okay. 10 A We were contacted in November of 2004. 11 Q Okay. 12 A Do you wish me to pursue this, John? 13 Q Yes. 14 A And there were multiple parties involved. 15 The TCEQ, EarthCare, the insurance company that 16 carried the surety bond, RLI Insurance, and TexCom, 17 and, together, we all reached an agreement. That 18 agreement is known amongst the parties as the 19 settlement agreement dated December something of 20 2004 -- 26th, 29th. 21 And that settlement agreement obligated 22 TexCom to purchase the property from EarthCare prior 23 to February 15, 2005. It also obligated us to 24 re-apply for an entirely new permit without any 25 recognition of the fact that the permit had previously</p>	<p style="text-align: right;">Page 168</p> <p>1 August 1, thereabouts. 2 Q Very good. Okay. There was some discussion 3 of a waste acceptance plan earlier. 4 A Yes, sir. 5 Q You've got Exhibits 2 through 48 attached to 6 your prefiled testimony. Could you identify, at least 7 for the Judges and the other parties, in which one of 8 these exhibits is the waste acceptance plan? Do you 9 remember? I think it's going to be a part of 10 something, but I'm not certain from the index. 11 A Mr. Williams, would you repeat the question, 12 please? 13 Q Which of the exhibits attached to your 14 prefiled, Nos. 2 through 48, contains the waste 15 acceptance plan that you're talking about? 16 A I don't have that in front of me, sir. 17 MR. RILEY: If we could assist -- I 18 mean, I think it would be helpful if the witness could 19 pull out TexCom Exhibit 33, which should be in some 20 number of boxes behind you, Dr. Ross. 21 MR. WILLIAMS: If it's in 33, that's 22 good enough. 23 MR. RILEY: I just want to verify that 24 that's where -- if you can, just take a look in that 25 exhibit.</p>
<p style="text-align: right;">Page 167</p> <p>1 been permitted. 2 And there are a number of other 3 obligations that we have as a result of acquiring the 4 property, some of which were mentioned earlier today 5 in the notice we received from the inspection late in 6 '06, which is, we were required to put a fence and 7 protection around the wellhead, paint the wellhead, 8 install monitoring devices for pressure, temperature, 9 flow rate, flow volumes, put a gate across the 10 property, put in a roadbed, put up a sign, install 11 automatic -- continuous recording devices on the 12 measuring equipment and so forth. 13 Q Very good. 14 A That, John -- 15 Q Good enough. 16 A -- is an example of -- rather, an explanation 17 of your question, I hope. 18 Q I just wanted to clarify the timeline. 19 A Okay. 20 Q And then you applied -- shortly after 21 acquiring the property, you applied for the current 22 application? 23 A Yes. The new applications were developed 24 between February 15th and the end of July, and we 25 filed the new application to the TCEQ July 29th or</p>	<p style="text-align: right;">Page 169</p> <p>1 A Do you know the volume number, John -- I have 2 it. 3 Exhibit 33? 4 MR. RILEY: Volume 11. 5 A Yes. Exhibit 33? 6 MR. RILEY: That's correct. 7 JUDGE WALSTON: Which volume was that? 8 JUDGE EGAN: 11. 9 A Volume 11. Exhibit 33 is "Surface Facility 10 Application Manual. Facility Design, Engineering 11 Management & Closure." 12 MR. RILEY: Sorry. I think we have 13 the -- that's right. And then if you flip within that 14 document to Page 31 of 186 referenced at the bottom 15 right-hand corner. 16 A Okay. "Waste Acceptance Program," I have it, 17 sir. 18 Q (By Mr. Williams) Very good. Just so long 19 as it's identified for the record so that when we're 20 referring to the waste plan, we can go to it in the 21 future. 22 Is there a separate waste acceptance 23 plan for the surface facility as opposed to the 24 injection wells? 25 A Yes.</p>

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<p style="text-align: right;">Page 170</p> <p>1 Q Yes.</p> <p>2 MR. WILLIAMS: Is that in the same place</p> <p>3 in the application, Mr. Riley?</p> <p>4 MR. RILEY: You've stumped me. Let</p> <p>5 me --</p> <p>6 (Laughter)</p> <p>7 MR. RILEY: Give me just one second.</p> <p>8 MR. WILLIAMS: Well, we can find it</p> <p>9 later.</p> <p>10 MR. RILEY: I suspect not, because it's</p> <p>11 the surface facility application manual.</p> <p>12 MR. WILLIAMS: Right.</p> <p>13 MR. RILEY: So I'll have to do some more</p> <p>14 looking.</p> <p>15 MR. WILLIAMS: That's okay. Perhaps we</p> <p>16 can identify it later. Appreciate it.</p> <p>17 Q (By Mr. Williams) You mentioned that</p> <p>18 Huntsman is currently sending its liquid non-hazard --</p> <p>19 industrial non-hazardous waste to a site in Liberty</p> <p>20 County, and that's owned by a third party. Is that</p> <p>21 correct?</p> <p>22 A Yes.</p> <p>23 Q Is that site located on or around a salt</p> <p>24 dome?</p> <p>25 A I don't know.</p>	<p style="text-align: right;">Page 172</p> <p>1 A Thank you.</p> <p>2 MR. RILEY: We would ask for just a</p> <p>3 couple of minutes to get ready for the next witness.</p> <p>4 JUDGE EGAN: All right. We'll take --</p> <p>5 how long do you think you need?</p> <p>6 MR. RILEY: Is five minutes appropriate?</p> <p>7 JUDGE EGAN: We'll reconvene at a</p> <p>8 quarter to 2:00.</p> <p>9 (Recess: 1:37 p.m. to 1:45 p.m.)</p> <p>10 (TexCom Exhibit No. 49A marked)</p> <p>11 GREG CASEY, P.E.,</p> <p>12 having been first duly sworn, testified as follows:</p> <p>13 DIRECT EXAMINATION</p> <p>14 BY MR. RILEY:</p> <p>15 Q Good afternoon, Mr. Casey.</p> <p>16 A Good afternoon.</p> <p>17 Q Can you hear me all right?</p> <p>18 A Yes, sir.</p> <p>19 Q All right. I know that you've testified in</p> <p>20 similar proceedings before -- and maybe not under</p> <p>21 these circumstances, but as you just heard from</p> <p>22 Mr. Forsberg, there are folks in the room that are</p> <p>23 having trouble hearing. I'm going to try to keep my</p> <p>24 voice up, at least. If you'll do the same, that would</p> <p>25 be helpful.</p>
<p style="text-align: right;">Page 171</p> <p>1 Q Okay. And in response to Mr. Forsberg's line</p> <p>2 of questions about being a good neighbor and telling</p> <p>3 the truck drivers not to use Creighton Road, is it</p> <p>4 true that Montgomery County has ordinance-making</p> <p>5 authority?</p> <p>6 A Yes.</p> <p>7 Q Isn't it possible for a county, by ordinance,</p> <p>8 to forbid truck traffic of a certain size or type on</p> <p>9 certain county roads?</p> <p>10 A I would assume that is correct. Yes.</p> <p>11 Q Then would you consider it to be a good</p> <p>12 neighbor to approach the county, should you be</p> <p>13 permitted and you construct this facility, for such an</p> <p>14 ordinance for Creighton Road?</p> <p>15 A Yes. I would consider that and I would call</p> <p>16 that an example of being a good neighbor to take that</p> <p>17 responsible action.</p> <p>18 MR. WILLIAMS: Thank you. I have no</p> <p>19 further questions, Your Honor. I pass.</p> <p>20 JUDGE EGAN: Any redirect?</p> <p>21 MR. RILEY: May I have just a moment?</p> <p>22 JUDGE EGAN: Yes, you may.</p> <p>23 (Brief Pause)</p> <p>24 MR. RILEY: We have no redirect.</p> <p>25 JUDGE EGAN: Okay. You may be excused.</p>	<p style="text-align: right;">Page 173</p> <p>1 A Okay.</p> <p>2 Q Mr. Casey, as I understand it, you are with</p> <p>3 ALL Consulting. Is that correct?</p> <p>4 A Yes, sir. I'm one of the partners over</p> <p>5 there.</p> <p>6 Q Okay. I'm having trouble over here.</p> <p>7 A I'm one of the partners.</p> <p>8 JUDGE WALSTON: And I think that left</p> <p>9 microphone is the one that works there. If you can,</p> <p>10 get close to it and speak into it. That will help.</p> <p>11 Q (By Mr. Riley) And as one of the partners of</p> <p>12 ALL Consulting, are you familiar with the application</p> <p>13 of TexCom Disposal that is the subject of this matter?</p> <p>14 A Yes, sir, I am.</p> <p>15 Q And what was your role, if any, in</p> <p>16 preparation of the permit application?</p> <p>17 A I led the preparation of the application,</p> <p>18 oversaw the technical aspects of the application.</p> <p>19 Q As part of that role or in that role, have</p> <p>20 you prepared prefiled testimony that has been</p> <p>21 previously submitted to the parties and the Judges in</p> <p>22 this matter?</p> <p>23 A Yes, sir, I have.</p> <p>24 Q Okay. And have -- has that testimony and the</p> <p>25 exhibits relevant to your testimony or introduced</p>

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<p style="text-align: right;">Page 174</p> <p>1 through your testimony, are they numbered TexCom 2 Exhibit 49 through TexCom Exhibit 56? 3 A Yes, sir. 4 MR. RILEY: Sorry. There was a 5 numbering error. And, actually, TexCom Exhibit 51, 6 there is no exhibit. It's just an error, as I 7 understand it. 8 Q (By Mr. Riley) In preparing for your 9 appearance here today, have you had an opportunity to 10 review your testimony, your prefiled testimony as we 11 call it, and the exhibits that are referenced in your 12 testimony? 13 A Yes, sir, I did. 14 Q And are there any corrections you'd like to 15 make to that testimony at this time? 16 A Yes, sir. 17 Q Hopefully, before you, if everything has gone 18 smoothly, is an exhibit that I believe has been 19 previously marked TexCom Exhibit 50A -- I'm sorry. 20 49A. 21 A Yes, sir, 49A. 22 Q And have you reviewed this document 23 previously? 24 A Yes, sir, I have. 25 Q And are these corrections to your prefiled</p>	<p style="text-align: right;">Page 176</p> <p>1 your prefiled testimony. 2 Just to flesh out a little bit about an 3 issue Mr. Riley discussed just now, and according to 4 your prefiled testimony, you were the project lead on 5 the -- at least the UIC application for TexCom. Is 6 that correct? 7 A Yes, on the UIC application. 8 Q Not the surface facilities application? 9 A No, sir. 10 Q Okay. But you supervised the work of all -- 11 I assume you had a team of folks that worked with you 12 to help prepare that UIC application. 13 A Yes, sir, we do. 14 Q And you supervise their work? 15 A Yes, sir. 16 Q And I believe your testimony said that all of 17 their work was incorporated into the application in 18 some form or fashion. Is that a fair statement? 19 A That's correct. 20 Q Okay. So, ultimately, the point I'm trying 21 to get at is: As far as ALL Consulting is concerned, 22 you were the one who takes responsibility for the UIC 23 application. Is that correct? 24 A Yes, sir. 25 Q A point that I think may be helpful to,</p>
<p style="text-align: right;">Page 175</p> <p>1 testimony that you've reviewed and adopt as your 2 testimony here this afternoon? 3 A Yes, sir, I do. 4 Q With these corrections, do you then adopt 5 your testimony, TexCom Exhibit 49, 49A and the 6 associated exhibits numbered 50 and then 52 through 56 7 as your testimony in this proceeding? 8 A Yes, sir. 9 MR. RILEY: With that, I offer those 10 exhibits into the record and I pass the witness. 11 JUDGE EGAN: Any objections to Exhibits 12 49, 49A, 50, 52 through 56? 13 (No response) 14 JUDGE EGAN: They're admitted. 15 (TexCom Exhibit Nos. 49, 49A, 50 and 52 16 through 56 admitted.) 17 JUDGE EGAN: Mr. Hill. 18 CROSS-EXAMINATION 19 BY MR. HILL: 20 Q Good afternoon, Mr. Casey. 21 A Good afternoon. 22 Q My name is Jason Hill. We haven't met 23 before. I represent the Lone Star Groundwater 24 Conservation District and I've got a few questions to 25 ask of you based on the testimony that you provided in</p>	<p style="text-align: right;">Page 177</p> <p>1 perhaps, the Judges is some nomenclature issues. I 2 want to see if, maybe, I can get your testimony on 3 helping just define some terms that probably -- well, 4 I know appear in the prefiled testimony and may appear 5 in the cross-examination throughout the course of this 6 hearing. 7 The term "injection zone" -- and I'm 8 talking specifically with regard to Well WDW-315 -- 9 let me back up for just a second. 10 The original permit holder that we 11 talked about before was Crossroads Environmental. Is 12 that correct? 13 A Yes, sir. 14 Q And Crossroads Environmental I think had 15 originally filed an application for two permits, 16 WDW-310 and WDW-315. Is that correct? 17 A I'm not -- I don't know how many wells 18 they -- 19 Q Okay. As far as you know and as far as 20 you're concerned, was the only well that was ever 21 constructed by Crossroads Environmental WDW-315? 22 A Yes. 23 Q Okay. And that's the well that I 24 specifically want to refer to to try to get a general 25 understanding of what some of these terms mean.</p>

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<p style="text-align: right;">Page 178</p> <p>1 The injection zone with respect to</p> <p>2 WDW-315, is that -- is it accurate to say that that's</p> <p>3 defined from -- and I'm not trying to trip you up with</p> <p>4 these numbers, but I believe in your prefiled</p> <p>5 testimony you identify it as the depths of 5,134 feet</p> <p>6 down to 6,390 feet. Is that -- does that sound right?</p> <p>7 A It sounds right. Yes, sir.</p> <p>8 Q It's, essentially, the Jackson formation down</p> <p>9 to the lower confining unit. Is that accurate?</p> <p>10 A From the top of the upper Cockfield to the</p> <p>11 bottom of the lower Cockfield.</p> <p>12 Q Okay. And the injection interval is an area</p> <p>13 within the injection zone. Is that correct?</p> <p>14 A Yes.</p> <p>15 Q And I believe that in the application the</p> <p>16 injection interval with respect to WDW-315 is defined</p> <p>17 as 6,045 feet down to 6,390 feet. Does that sound</p> <p>18 right?</p> <p>19 A Yes, sir.</p> <p>20 Q Okay. And then -- but within that -- the</p> <p>21 injection interval, there's also the perforated</p> <p>22 interval. Is that correct?</p> <p>23 A Yes, sir.</p> <p>24 Q Okay. And the perforated interval is even a</p> <p>25 smaller or a shorter distance than the injection</p>	<p style="text-align: right;">Page 180</p> <p>1 perforations in that well be 145 feet or will that be</p> <p>2 a hundred and -- some number of feet minus some shales</p> <p>3 and whatnot to get to a different number?</p> <p>4 A The 145 feet is the actual amount of footage</p> <p>5 that's perforated. It will not be continuous. You</p> <p>6 may have, you know, 20 feet of perforations up near</p> <p>7 the top of the lower Cockfield and you may skip a zone</p> <p>8 that was -- had a lot of shale in it. And then you go</p> <p>9 to the next sand layer, and that's perforated. And so</p> <p>10 it's perforated at various spots across the 300 foot</p> <p>11 or so of lower Cockfield. The original perforations,</p> <p>12 they perforated some of the more -- the lower portion</p> <p>13 of the lower Cockfield, and they perforated a lot of</p> <p>14 the shalier portion of the well.</p> <p>15 Q Okay.</p> <p>16 A Our goal is to actually go in and perforate</p> <p>17 the more sandy portions of the reservoir.</p> <p>18 Q The total perforated interval on WDW-315</p> <p>19 right now is what? Do you recall?</p> <p>20 A Not off the top of my head. No.</p> <p>21 Q Does the number 100 feet sound --</p> <p>22 A Somewhere around 100 feet. Yes, sir.</p> <p>23 Q Okay. I had also seen 90 feet. Does that</p> <p>24 sound out of the realm of possibility?</p> <p>25 A I'd have to look it up.</p>
<p style="text-align: right;">Page 179</p> <p>1 interval. Is that right?</p> <p>2 A Yes, sir.</p> <p>3 Q And with respect to WDW-315, is it correct</p> <p>4 that the perforated interval of that well is</p> <p>5 6,184 feet to 6,372 feet?</p> <p>6 A The exact depths, I couldn't tell you off the</p> <p>7 top of my head. I've have to --</p> <p>8 Q If I've done my math correctly, the total</p> <p>9 injection interval is a distance of -- or a depth of</p> <p>10 345 feet, but the measurement or the reference to the</p> <p>11 injection interval is not necessarily referenced in</p> <p>12 that total depth. You make some calculations to get</p> <p>13 to a different number to measure that injection</p> <p>14 interval. Is that correct?</p> <p>15 In other words, the number of 145 feet</p> <p>16 had been thrown around as measuring that injection</p> <p>17 interval -- I'd use the term loosely "thrown around."</p> <p>18 It's been testified to in the prefiled testimony as</p> <p>19 measuring that injection interval and I'm trying to</p> <p>20 determine how you get to 145 feet from the distances</p> <p>21 that we've talked about with the injection interval.</p> <p>22 A The 145 feet will be the perforated interval</p> <p>23 in the well once TexCom re-perforates according to the</p> <p>24 permit application.</p> <p>25 Q Will the total depth or distance of</p>	<p style="text-align: right;">Page 181</p> <p>1 Q Okay. All this is to say -- thank you for</p> <p>2 walking through that.</p> <p>3 The point, I guess, of the -- and I</p> <p>4 understand you've got UIC experience. You're familiar</p> <p>5 with, I assume, the policies behind -- at least with</p> <p>6 the UIC program with the TCEQ.</p> <p>7 A Yes, sir.</p> <p>8 Q Would you agree that the concern with</p> <p>9 underground injection is to prevent a situation where</p> <p>10 you have migration of contaminants into an underground</p> <p>11 source of drinking water?</p> <p>12 A Yes, sir. That's the premise behind the</p> <p>13 program.</p> <p>14 Q Okay. So your job there as an applicant is</p> <p>15 to make sure there are no pathways from the injection</p> <p>16 reservoir into underground sources of drinking water</p> <p>17 via through, possibly, transmissive faults or</p> <p>18 artificial penetrations or whatnot. Is that --</p> <p>19 A Those are all parts of the application</p> <p>20 process. Yes, sir.</p> <p>21 Q And with respect to artificial penetrations</p> <p>22 and your assessment of the impact that a potential</p> <p>23 injection project may have artificial penetrations, do</p> <p>24 you not rely on a calculation referred to as a "cone</p> <p>25 of influence" to help you in that determination?</p>

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<p style="text-align: right;">Page 182</p> <p>1 A Yes.</p> <p>2 Q The cone of influence, as I understand it --</p> <p>3 and correct me if I'm wrong -- or I'll ask you: Is</p> <p>4 that essentially the area of pressure radiating from</p> <p>5 the injection bore, the wellbore itself that</p> <p>6 potentially could impact artificial penetrations or</p> <p>7 create migrations through artificial penetrations? Is</p> <p>8 that accurate?</p> <p>9 A Right. That's correct.</p> <p>10 Q And if -- I believe, if I read your testimony</p> <p>11 in the application correctly, that calculation was</p> <p>12 based on the pressure it would take to displace</p> <p>13 drilling mud that has been injected into various</p> <p>14 artificial penetrations in the area of review. Is</p> <p>15 that correct?</p> <p>16 A Right. That's based on TCEQ directions on</p> <p>17 how you calculate the cone of influence.</p> <p>18 Q I sure don't want to trip you up with this</p> <p>19 number, but if -- I think I wrote the number down to</p> <p>20 be at -- the cone of influence is a pressure increase</p> <p>21 or the area that is subjected to a pressure increase</p> <p>22 of 421 psi or greater. Does that sound right?</p> <p>23 A Sounds right. I'd have to look it up to be</p> <p>24 absolutely correct.</p> <p>25 Q Fair enough. The point that I was trying to</p>	<p style="text-align: right;">Page 184</p> <p>1 A You lost me a little bit there.</p> <p>2 Q I'm trying to get a perspective of the</p> <p>3 difference in assessing where a waste plume is through</p> <p>4 injection into the reservoir and where the leading</p> <p>5 edge of the cone of influence is in their</p> <p>6 relationships.</p> <p>7 A The leading edge of the cone of influence in</p> <p>8 this case is significantly less than the waste plume.</p> <p>9 Q Okay. Typically -- well, fair enough. Fair</p> <p>10 enough.</p> <p>11 Let me direct your attention to Page 37</p> <p>12 of your testimony, if you don't mind. Specifically,</p> <p>13 I'm looking at, Mr. Casey, Lines 16 through 18.</p> <p>14 You were asked the question where you</p> <p>15 get your input parameters for reservoir modeling, and</p> <p>16 I'll -- I've got some questions for you about modeling</p> <p>17 in just a second, but I'm interested in your answer</p> <p>18 here. And please correct me if I misstate your</p> <p>19 testimony, but if I read this accurately, it says,</p> <p>20 "Input parameters for the reservoir model were</p> <p>21 generated from geologic data, drilling logs, wireline</p> <p>22 logging, standard correlations, structural maps and</p> <p>23 analysis of the injection/fall-off testing." Did I</p> <p>24 read that correctly?</p> <p>25 A Yes, sir.</p>
<p style="text-align: right;">Page 183</p> <p>1 get at is that the cone of influence is not defined by</p> <p>2 the front of a waste plume. It's defined by,</p> <p>3 essentially, the front of a pressure plume. Is that</p> <p>4 correct?</p> <p>5 A The cone of influence is defined by the --</p> <p>6 it's the maximum radius out from a well that there's</p> <p>7 sufficient pressure to cause upward flow in an</p> <p>8 unplugged or abandoned wellbore.</p> <p>9 JUDGE EGAN: I'm sorry. I lost you at</p> <p>10 the end of that. Your voice dropped off.</p> <p>11 A Sorry. What a cone of influence is is the</p> <p>12 area around a well at which the pressure build-up from</p> <p>13 injection, there's sufficient pressure to cause upward</p> <p>14 flow in an abandoned wellbore. And so, you know, part</p> <p>15 of the calculation is you use, you know, the mud</p> <p>16 weight, and you calculate what the pressure required</p> <p>17 to cause upward flow would be. Then you see "How far</p> <p>18 out does your pressure increase meet that number?"</p> <p>19 Q (By Mr. Hill) Okay. The leading edge, I'll</p> <p>20 say, of the cone of influence, is that typically a</p> <p>21 farther distance away from the leading edge of the</p> <p>22 waste plume per injection activity or does it fall</p> <p>23 behind the leading edge of the waste plume, typically?</p> <p>24 A Could you say that again?</p> <p>25 Q Sure. Sure.</p>	<p style="text-align: right;">Page 185</p> <p>1 Q Okay. What I'd like to do is go through each</p> <p>2 one of these sources of -- let me back up just a</p> <p>3 second.</p> <p>4 For purposes of determining a cone of</p> <p>5 influence, is it accurate to say that you rely on</p> <p>6 models -- pressure models to help you assess what the</p> <p>7 cone of influence of a particular injection activity</p> <p>8 is going to be?</p> <p>9 A Yes, sir.</p> <p>10 Q Okay. And in putting those models</p> <p>11 together -- and you've got to compile various pieces</p> <p>12 of data to plug into the model to give you the output</p> <p>13 that you need to rely upon for cone of influence.</p> <p>14 A Yes, sir.</p> <p>15 Q Is that right?</p> <p>16 And the inputs that you use to put into</p> <p>17 these models, if I'm reading your testimony here</p> <p>18 correctly, you garner from these various sources of</p> <p>19 data. Is that correct?</p> <p>20 A Yes, sir.</p> <p>21 Q Okay. I'd like to ask you specifically what</p> <p>22 each of those sources of data help you provide -- or</p> <p>23 what the sources of information each of these sources</p> <p>24 provide with respect to the modeling. For example,</p> <p>25 for drilling logs, is it accurate that drilling logs</p>

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<p style="text-align: right;">Page 186</p> <p>1 provide you information on geologic structure, 2 thickness and perhaps lithology? Is that a fair 3 assessment? 4 A That's some of the things they provide. 5 Q Okay. 6 A Mud weights. 7 Q Mud weights. 8 A Yes, sir. 9 Q Anything else? It's not a trick question. 10 I'm just trying to get an understanding of what 11 information each of these pieces of data provide you 12 with. 13 A Well, a drilling log gives you, you know, a 14 good picture of what the subsurface looks like from 15 past drilling experience in the area. You know, 16 you'll have the mud weights they used, the pressure 17 encountered. You know, it will typically have your 18 formation sampling that was done so you know what 19 depths to top of various formations is. 20 Q When you're trying to put a pressure model 21 together, what data from a drilling log do you 22 commonly use in your pressure models? 23 A It's really hard to pin down a certain item 24 from, you know, a certain place. When you're doing 25 your model, you gather all this data in and you</p>	<p style="text-align: right;">Page 188</p> <p>1 information do you get from standard correlations? 2 Information on structure? 3 A Structure, fracture, fracture gradients. You 4 know, there's standard correlations. Like Gulf Coast, 5 you know, you have fracture gradients from .6, .65. 6 So those sort of -- that sort of information. Water 7 compressibility, those sort of issues. 8 Q And then you mention structural maps, and I 9 assume that gives you an idea of structure. 10 A Yes, sir. 11 Q Correct? 12 And then you mention geologic data. Is 13 that a general term or is there something specific you 14 had in mind? 15 A It's more general. It kind of covers your 16 regional data; so you get regional dip. You know, it 17 could be anything from -- like I said, wireline logs 18 from various area cross-sections that were created to 19 help you better define what the reservoir looks like 20 for your inputs -- you know, for your modeling inputs. 21 Q Would that geologic data, I guess, also 22 assume -- include core data if you had it available? 23 A Yes, sir. 24 Q And what about injection fall-off testing? 25 A Yes, sir. We use -- you know, if there's a</p>
<p style="text-align: right;">Page 187</p> <p>1 evaluate it and you do -- and you go with the 2 conservative number for each of the values that you 3 input. Of course, your depths, you know, you'll know 4 from -- we have an existing well; so we know our 5 depths. Mud weights for calculating cone of influence 6 were pulled from -- we looked at mud weights in 7 various drilling logs, and, you know, 9 pounds was the 8 lowest that we found in the area; so that's what we 9 used to calculate our cone of influence pressure. 10 THE REPORTER: To calculate what? 11 A Cone of influence pressure. 12 Q (By Mr. Hill) I'll just go down the list 13 here. What about wireline logs? Is it accurate to 14 say that wireline logs provide you, again, with those 15 structure values? Perhaps thickness and lithology. 16 A Yes, sir. 17 Q Okay. Porosity, perhaps. 18 A If they have a porosity log available, yes, 19 sir. 20 Q Okay. Do you know if a porosity log was 21 taken on WDW-315? 22 A I believe so. I haven't looked at the logs 23 recently to remember the exact litany of logs they ran 24 on that well. 25 Q Okay. Standard correlations, what type of</p>	<p style="text-align: right;">Page 189</p> <p>1 fall-off test available, we use that data as 2 applicable to the well. 3 Q What if it's -- typically, what type of data 4 do you get from core data and from injection fall-off 5 data? Is there a catalog of information that you can 6 garner from those sources? 7 A Typically, from core data and from a fall-off 8 test, you're looking for permeability. 9 Q So from -- through all these sources of 10 information that you use for modeling inputs, is it a 11 fair summary of your testimony to say that the core 12 data and injection fall-off testing are your primary 13 sources for permeability? Did I misunderstand your 14 testimony? 15 A No. That's correct. They're our primary 16 sources. 17 Q Okay. Now, obviously, your assumptions 18 regarding all of these inputs that go into your 19 modeling, they're ultimately verified once you 20 complete the well. Isn't that correct? 21 A Yes. 22 Q I mean, I think twice in your testimony -- I 23 can cite you to the pages if you'd like for me to, but 24 on Page 38 and 47, I think you reference that, 25 actually, fall-off testing is the way that you verify</p>

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<p style="text-align: right;">Page 190</p> <p>1 those modeling assumptions once a well has been 2 completed and you have that opportunity to conduct 3 that test. Is that correct? 4 A That's correct. 5 Q Okay. Now, again, help me with some 6 definitions, if you don't mind. "Permeability," is 7 that -- is it accurate to say that permeability is the 8 measure of a particular geologic formation to transmit 9 fluids? 10 A It's the -- how easily the formation 11 transmits the fluids. 12 Q Okay. 13 A How interconnected the pore spaces are. 14 Q Help me with that a little bit, if you don't 15 mind. Easier or less easy -- what, typically, does a 16 high permeability number indicate? 17 A A high permeability number would indicate 18 that you have a -- typically, like a clean sandstone 19 with very little clay or cementation inside of it so 20 that there's -- the various pore spaces between the 21 grains of sands are usually connected so the water 22 would flow readily through the sandstone. 23 Q Is there a correlation between permeability 24 and reservoir pressuring, typically? 25 A To a degree, yes, sir.</p>	<p style="text-align: right;">Page 192</p> <p>1 conservative, only looked at what your perforated 2 height is as your injection interval for modeling. 3 Even though we're -- you know, we're -- okay. We have 4 a 340-foot zone; we have a 145-foot perforations. 5 Well, our -- the modeling we use -- our height is only 6 145 feet, when, in reality, once it leaves that 7 wellbore, it's open to the full 340 feet of formation. 8 So to be conservative, they say, "Well, let's just" -- 9 "You're going to model it using 145." That's a 10 conservative way of looking at it, assuming that other 11 sand is not available to you, what your pressure 12 build-up is going to be over 30 years of injection in 13 that 145 feet. 14 Q Okay. So there is a -- for modeling 15 purposes, there's a correlation between your 16 perforated interval and the value for thickness that 17 you use in that modeling. Is that correct? 18 A Right. 19 Q Okay. And if I read the application 20 correctly, TexCom relied on -- or rather -- well, I 21 guess ALL Consulting used a permeability of 500 22 millidarcies and a thickness value of 145 feet for the 23 model that you included in the UIC application. Is 24 that correct? 25 A That's correct.</p>
<p style="text-align: right;">Page 191</p> <p>1 Q Okay. And explain, if you don't mind. 2 A Well, if a reservoir is -- has a higher 3 permeability, it will dissipate as you inject -- and, 4 you know, when you add pressure, it will dissipate the 5 pressure out further in a reservoir because it moves 6 easily through the reservoir. There's not much to 7 keep it from -- to hold back the pressure. 8 If it was -- if you were, like, trying 9 to push it through clay, you'd have to have a lot of 10 pressures going a little bit of distance, but if 11 you're pushing it through sand, it would flow easily 12 through the sand. 13 Q Okay. Clay, I guess, is an example of a 14 material that would typically have a low permeability. 15 Is that correct? 16 A Yes, sir. 17 Q And sand, obviously, has high -- 18 A Tend to be higher permeability, yes, sir. 19 Q Okay. Now, thickness, we've -- I think we 20 mentioned thickness before. Can you help explain what 21 a thickness measurement indicates? 22 A Well, thickness for the modeling aspect is 23 strictly the perforated interval, how much footage of 24 perforations we have available for injection. 25 The TCEQ is always -- to be</p>	<p style="text-align: right;">Page 193</p> <p>1 Q Okay. And I've seen various references to 2 the cone of influence, but I think that the cone -- 3 throughout the application, but I think the cone of 4 influence is -- through that pressure modeling was 5 calculated to be 150 feet or less. Is that accurate? 6 A Well, it's kind of a -- there was a mistake 7 in the initial application, and it was a -- a 8 calculation was done wrong, and so there was a table 9 in the back of Section VII that said, basically, 10 150 feet was the edge of the cone of influence, but 11 when we -- you know, in one of the -- it was the first 12 or second updates to the application. Through the 13 deficiency process, the mistake was found, and we 14 corrected it. 15 Well, the table was never corrected. 16 And as we were preparing for -- you know, to come to 17 this hearing, I started looking at it, and the table 18 kept coming up, the 150 foot kept coming up. I said, 19 "Well, that's not quite right." 20 So went back and looked, and in the 21 addition to the testimony, I actually calculated it 22 out as -- right at 750 feet, is the actual cone of 23 influence where you -- where 421 psi -- as your 24 pressure decays away from the well, where it crosses 25 the 421 psi point is at about 750 feet from the</p>

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<p style="text-align: right;">Page 194</p> <p>1 wellbore.</p> <p>2 Q Okay. And that's -- again, that's a -- when</p> <p>3 you talk about 421 psi, you're talking about a -- not</p> <p>4 a creation of that pressure, but an increase in the</p> <p>5 natural formation pressures. Is that correct?</p> <p>6 A Yes, sir. It's an increase over natural --</p> <p>7 the initial formation pressure.</p> <p>8 JUDGE WALSTON: Just one thing. Is that</p> <p>9 750 feet radius or the diameter?</p> <p>10 A That is a radius.</p> <p>11 Q (By Mr. Hill) If I can turn your attention</p> <p>12 back to your prefiled testimony again, Mr. Casey, if</p> <p>13 you don't mind, Page 45. Specifically, I'm looking at</p> <p>14 testimony -- essentially, the entire last sentence of</p> <p>15 the page from 21 down to Line 26.</p> <p>16 Again, correct me if I misstate your</p> <p>17 testimony in any way, but it reads, "Moreover, our</p> <p>18 modeling, which is based on extremely conservative</p> <p>19 assumptions, shows that the pressure needed to cause</p> <p>20 upward flow dissipates within about 150 feet of</p> <p>21 TexCom's wellbore. So even if there were unidentified</p> <p>22 wells completed in the lower Cockfield or lower, there</p> <p>23 would be insufficient pressure build-up to cause</p> <p>24 upward migration, even if those wells were unplugged."</p> <p>25 Now, for purposes of the prefiled</p>	<p style="text-align: right;">Page 196</p> <p>1 of your testimony there?</p> <p>2 A Well, there are wells within that 750 feet</p> <p>3 that do not penetrate below the upper Cockfield. So</p> <p>4 there are no wells within, you know, at least</p> <p>5 1,100 feet, if not further, that penetrate below the</p> <p>6 upper Cockfield.</p> <p>7 Q And if I understand your point, is that even</p> <p>8 if there are wells that penetrate into or through the</p> <p>9 lower Cockfield, they're beyond at least 1,100 feet,</p> <p>10 far out from the distance that the pressure increase</p> <p>11 would be 421 psi. So they're not going to be impacted</p> <p>12 by the pressure increases created by the injection</p> <p>13 activity. Is that correct?</p> <p>14 A That is correct.</p> <p>15 Q Is it correct also to say that that</p> <p>16 calculation is based on the assumptions that you put</p> <p>17 into your model? In other words, if your assumptions</p> <p>18 were incorrect and the cone of influence calculation</p> <p>19 was incorrect, that statement may not stand. Is that</p> <p>20 a fair assessment?</p> <p>21 A Well, I believe our assumptions are correct,</p> <p>22 so --</p> <p>23 Q Sure. I understand. I'm sure you do. My</p> <p>24 point is that that whole statement depends on those</p> <p>25 assumptions being correct. Isn't that right?</p>
<p style="text-align: right;">Page 195</p> <p>1 testimony, did I get that correct?</p> <p>2 A Yes, sir. That was correct.</p> <p>3 Q I understand that it sounds like you're</p> <p>4 not -- you're no longer concerned with merely 150 feet</p> <p>5 from the wellbore, but --</p> <p>6 A Yes, sir. We --</p> <p>7 Q -- your calculation is amended to 750 feet.</p> <p>8 Is that correct?</p> <p>9 A Yes, sir. That's correct.</p> <p>10 Q Minus that substitution, is that -- that's</p> <p>11 an -- is that an accurate statement --</p> <p>12 A Yes, sir.</p> <p>13 Q -- of your prefiled testimony?</p> <p>14 So the point here that it sounds like</p> <p>15 you're trying to make -- and correct me if I'm wrong,</p> <p>16 is that there may be artificial penetrations in the</p> <p>17 area of review that actually penetrate into or even</p> <p>18 through and below the lower Cockfield, the formation</p> <p>19 that you plan on injecting into, but those are farther</p> <p>20 away than 750 feet or -- well, in looking at the</p> <p>21 amendments you made to your prefiled testimony that</p> <p>22 was just offered, even further away than the</p> <p>23 1,100 feet from the wellbore. So the cone of</p> <p>24 influence is not going to come anywhere near those</p> <p>25 artificial penetrations. Is that an accurate summary</p>	<p style="text-align: right;">Page 197</p> <p>1 A That's correct.</p> <p>2 Q Okay. And if those assumptions were wrong,</p> <p>3 for whatever reason, and the cone of influence was</p> <p>4 much larger than 750 feet, then, to the extent that</p> <p>5 the cone of influence impacted artificial</p> <p>6 penetrations, this statement would not be correct. Is</p> <p>7 that right?</p> <p>8 A Can you restate that again? You kind of lost</p> <p>9 me there.</p> <p>10 Q I think you answered my question.</p> <p>11 A Okay.</p> <p>12 Q Fair enough.</p> <p>13 So let me move on to -- I'd like to talk</p> <p>14 a little bit specifically about the model that ALL</p> <p>15 Consulting put together. Like we've discussed, you've</p> <p>16 selected various inputs and put into that model,</p> <p>17 you -- permeability, I guess, being one of the</p> <p>18 inputs --</p> <p>19 A Yes, sir.</p> <p>20 Q -- that went into the model.</p> <p>21 Porosity?</p> <p>22 A Yes, sir.</p> <p>23 Q Viscosity?</p> <p>24 A Yes, sir.</p> <p>25 Q Okay. Thickness?</p>

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<p style="text-align: right;">Page 198</p> <p>1 A Yes, sir.</p> <p>2 Q And I think that you -- well, we saw back in</p> <p>3 one of the references to your testimony that you</p> <p>4 referred to those as very conservative assumptions. I</p> <p>5 think in other parts of your testimony -- Page 35,</p> <p>6 Line 26 and Page 38, Line 23, you refer to them as</p> <p>7 worst-case scenarios. I can certainly give you the</p> <p>8 opportunity to flip to those -- to that testimony if</p> <p>9 you need to. I don't want to misquote you there.</p> <p>10 A Okay.</p> <p>11 Q 35, Line 26, you make the statement, "Our</p> <p>12 modeling is based on worst-case assumptions." Is</p> <p>13 that -- am I reading that correctly, that the values</p> <p>14 that go into that model are what you consider to be</p> <p>15 the worst-case assumptions that you can reasonably</p> <p>16 come up with and put into the model?</p> <p>17 A It would be the worst-case assumptions based</p> <p>18 on how we think the formation is going to react to</p> <p>19 operations out at the facility.</p> <p>20 Q Okay. The 500 millidarcy permeability --</p> <p>21 obviously, permeability is a key issue in this case.</p> <p>22 Do you believe that 500 millidarcies is -- with</p> <p>23 respect to Well-315 is a worst-case assumption on what</p> <p>24 you anticipate the permeability of the injection</p> <p>25 reservoir to be?</p>	<p style="text-align: right;">Page 200</p> <p>1 that's presented on the next page under D is referred</p> <p>2 to as the best case. The output that's labeled Output</p> <p>3 D uses 500 millidarcies and a thickness of 145 feet,</p> <p>4 which is -- if I'm not mistaken, are the same</p> <p>5 permeability and thickness values that you use in your</p> <p>6 reservoir modeling that you presented in your</p> <p>7 application. Is that correct?</p> <p>8 A Yes, sir.</p> <p>9 Q These are the same assumptions that you refer</p> <p>10 to in your application as worst-case scenarios. Is</p> <p>11 that right?</p> <p>12 A Yes, sir.</p> <p>13 Q And so I guess the question is: Is that</p> <p>14 permeability and thickness value, 500 millidarcies and</p> <p>15 145 feet of thickness, the best or the worst-case</p> <p>16 scenario?</p> <p>17 A The 500-145 is a worst-case scenario on how</p> <p>18 the formation is actually going to react.</p> <p>19 When this was put together -- this was</p> <p>20 before we had really started with the application. We</p> <p>21 were working with TexCom and looking at the results of</p> <p>22 the initial fall-off test that was done on the well by</p> <p>23 looking at the well logs and where the perforations</p> <p>24 were and basically helping TexCom make some decisions</p> <p>25 on, you know, "Is this something to move forward</p>
<p style="text-align: right;">Page 199</p> <p>1 A Yes. I expect the actual permeability to be</p> <p>2 higher than 500.</p> <p>3 Q Do you have access to Lone Star Exhibit 18?</p> <p>4 A Yes, sir.</p> <p>5 Q If you -- these pages aren't numbered. If</p> <p>6 you'll flip through to the fourth page, the actual</p> <p>7 third page of text, there are -- under Table 2 there,</p> <p>8 there are at least three, what are called, analytical</p> <p>9 models, and then on the next page, there's a fourth</p> <p>10 analytical model. Are these the types of models in</p> <p>11 our dialogue that -- between you and I just now that</p> <p>12 we've been talking about modeling? Are these the</p> <p>13 types of models that you've been referencing to when</p> <p>14 you refer to "modeling"?</p> <p>15 A These are outputs from a model, yes, sir.</p> <p>16 Q Okay. And, specifically, if you look on the</p> <p>17 fifth page, the page that's labeled APP1000729 --</p> <p>18 A Yes, sir.</p> <p>19 Q -- there's a -- the last sentence of text</p> <p>20 there reads: "The following data was extracted from</p> <p>21 numerical model's results for the worst and best cases</p> <p>22 presented above," and it refers to cases A and D.</p> <p>23 Flipping back to Page APP1000727,</p> <p>24 output -- the output that's labeled A is referred to</p> <p>25 on the previous page as the worst-case and the output</p>	<p style="text-align: right;">Page 201</p> <p>1 with?"</p> <p>2 And when we do -- we do these quick</p> <p>3 analytical models. It's kind of a mathematical model</p> <p>4 to see what the results would be of various inputs.</p> <p>5 And using the 80.9 millidarcy permeability that they</p> <p>6 got from the fall-off test and -- we're basically</p> <p>7 showing them that if you don't reperforate in the</p> <p>8 better zones, you're going to have pressure build-up</p> <p>9 issues because you're -- I don't know who decided</p> <p>10 where to perforate the well, but they picked the worst</p> <p>11 parts of the lower Cockfield to perforate. It's very</p> <p>12 shaley. The sands, they're not very clean where</p> <p>13 perforated, and it's not even close to where the core</p> <p>14 samples were taken.</p> <p>15 And so when we go back and look at the</p> <p>16 core samples and evaluate, "Okay. We're going to</p> <p>17 reperforate across clean sands" and you open up the</p> <p>18 zone of -- the portions of the lower Cockfield that</p> <p>19 are 600, 800, 900 millidarcy permeabilities, that</p> <p>20 you're going to average closer to a 500 millidarcy</p> <p>21 perm over the whole 145 feet.</p> <p>22 So the worst case is they didn't</p> <p>23 perforate anything they're trying to inject into that</p> <p>24 shaley part of the reservoir and it's not going to</p> <p>25 accept water very well. It's going to -- you'll have</p>

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<p style="text-align: right;">Page 202</p> <p>1 pressure issues with your pumps at the surface because 2 it's going to be hard to inject into it. So we were 3 showing them that, you know, you need to reperforate 4 and you need to do it in these zones that were, you 5 know, chosen by our geologists as being the best parts 6 of the lower Cockfield that should have been 7 perforated initially. And by doing that, you're going 8 to -- you know, worst case, you're going to have about 9 500 millidarcy average perm. 10 The expectation and the -- what I 11 believe we'll see is somewhere 6- to 800, on an 12 average, once we actually, you know, put the well -- 13 you know, perforate the well, clean it up and actually 14 do another fall-off test. 15 Q The WDW-315 well that exists in the ground 16 today, it is not perforated for 145 feet of thickness. 17 Is that correct? 18 A No, sir. It's 90-foot perforations. 19 Q And if WDW-410, the new permit for, 20 essentially, 315, were issued, is there a requirement 21 that TexCom would have to go and reperforate that well 22 to 145 feet of thickness? 23 A Yes, sir. 24 Q There is a requirement? 25 A You're required -- the permits, as they're</p>	<p style="text-align: right;">Page 204</p> <p>1 a well workover report. 2 JUDGE EGAN: A what? 3 A Well workover report. 4 MR. HILL: Thank you, Mr. Casey. 5 I pass the witness. 6 A You're welcome. 7 CROSS-EXAMINATION 8 BY MS. STEWART: 9 Q Good afternoon, Mr. Casey. My name is Julie 10 Stewart. I represent the Aligned Protestants 11 Montgomery County and City of Conroe. 12 A Okay. 13 Q I have a few questions for you concerning 14 your prefiled testimony. 15 A Yes, ma'am. 16 Q Specifically, if you'll turn to Page 13, you 17 testified that you believe TexCom's UIC application 18 contained all the information that's required by TCEQ 19 rules and policy. 20 A Yes, ma'am. 21 Q Specifically, in your opinion, did TexCom's 22 UIC application contain all the information required 23 by Texas Administrative Code 305.45? And to help you, 24 you can look at Page 11 of your testimony, Lines 7 25 through 8?</p>
<p style="text-align: right;">Page 203</p> <p>1 issued, bring the application in, in total, as being a 2 condition. And in the application we state that we're 3 going to go in and perforate an additional, you know, 4 footage, and it's stated in the application where 5 we're going to perforate. And then we'll perforate, 6 clean it up. Then we'll have to run another injection 7 fall-off test before we'll ever be allowed to operate 8 it. That will be a stipulation with the permit. 9 Q So there will be another injection fall-off 10 test that will be required before WDW-410 will be put 11 into operation? 12 A Yes. As far as I've ever dealt with TCEQ, 13 before they issue your operational permit, you have to 14 meet all the operational conditions up front, which 15 you have to -- you know, essentially going in and 16 working on the well. We'll be pulling tubing out, 17 perforating, setting -- you know, putting the tubing 18 back in and running all the mechanical integrity 19 testing that's required, which includes an injection 20 fall-off test. So that will be a stipulation before 21 they get their operational permit. 22 Q Has there -- is it your understanding that a 23 new completion report will have to be provided to 24 TCEQ? 25 A It won't be a completion report. It will be</p>	<p style="text-align: right;">Page 205</p> <p>1 A I don't know the citing off the top of my 2 head here, so -- 3 Q Your counsel asked if the application 4 contained all that information; you said, "Yes." 5 A Yes. To the best of my knowledge, it's all 6 there. 7 Q Specifically, I'd like to ask you about 8 Administrative Code 305.45(a)(6), the topographic map 9 that is required to show specific information -- 10 A Yes, ma'am. 11 Q -- within one mile of the well site. And on 12 Lines 14 through 15, you reference that the 13 topographic maps show the location of the facility and 14 was included in Attachment B to the application. 15 A Yes. 16 Q I have one copy of that map with me available 17 for your review. Do you have access to that map as 18 well? 19 A Yes. It should be in this application behind 20 me. 21 Q It's Exhibit 6, Page 193. 22 JUDGE WALSTON: You said Page 193? 23 MS. STEWART: Yes. TexCom Exhibit 6, 24 Page 193. It's the one-mile area of review 25 topographic map labeled Attachment B.</p>

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<p>1 JUDGE WALSTON: Okay. I got it.</p> <p>2 A Okay.</p> <p>3 Q (By Ms. Stewart) Under Administrative Code</p> <p>4 305.45 --</p> <p>5 THE REPORTER: Wait. Wait. I can't</p> <p>6 hear.</p> <p>7 MS. STEWART: Too much paper?</p> <p>8 (Laughter)</p> <p>9 THE REPORTER: Yeah. Thank you.</p> <p>10 Q (By Ms. Stewart) Under Administrative Code</p> <p>11 305.45(a)(6), this one-mile area of review topographic</p> <p>12 map is required to show wells, springs, surface bodies</p> <p>13 of water. I understand that there was a notice of</p> <p>14 deficiency regarding the water wells for this area of</p> <p>15 review map, and it was prepared again and resubmitted</p> <p>16 showing some water wells within one mile of the</p> <p>17 facility. Is that correct?</p> <p>18 A Yes, ma'am.</p> <p>19 Q Okay. How many water wells were identified</p> <p>20 within one mile of the proposed facility?</p> <p>21 A Off the top of my head, I couldn't tell you.</p> <p>22 I'd have to --</p> <p>23 Q I should have had you do this when you were</p> <p>24 looking for that one. The Revised Attachment B is</p> <p>25 included as TexCom Exhibit 20, Page 179, if you'd like</p>	<p>1 Q Could you identify, by number, the water</p> <p>2 wells that were added to this Revised Attachment B,</p> <p>3 please.</p> <p>4 A There's three. Three additional wells were</p> <p>5 added.</p> <p>6 Q Are those identified by some type of state</p> <p>7 identification number --</p> <p>8 A Yes, ma'am.</p> <p>9 Q -- on Attachment B?</p> <p>10 Would you please read those for the</p> <p>11 record?</p> <p>12 A 6045609, 6045610, 6045901.</p> <p>13 Q Okay. Thank you, Mr. Casey.</p> <p>14 An additional requirement under</p> <p>15 Administrative Code 305.45 is that this particular map</p> <p>16 that was submitted as Attachment B to the application</p> <p>17 show the general character of the areas adjacent to</p> <p>18 the facility, including public roads, towns, the</p> <p>19 nature of development and adjacent lands such as</p> <p>20 residential, commercial, agricultural, recreational or</p> <p>21 undeveloped. Is it your opinion that this particular</p> <p>22 map -- the revised version of the map that we've been</p> <p>23 talking about satisfies that requirement?</p> <p>24 A Yes, ma'am.</p> <p>25 Q Could you point me to the specific areas of</p>
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<p>1 to refer to that.</p> <p>2 JUDGE WALSTON: You want to just, maybe,</p> <p>3 tell him the number that you have and --</p> <p>4 MS. STEWART: It looks like there --</p> <p>5 JUDGE WALSTON: -- ask him if he agrees.</p> <p>6 MS. STEWART: -- might be -- yes, Judge.</p> <p>7 I'm sorry.</p> <p>8 Q (By Ms. Stewart) It looks like there might</p> <p>9 be three wells.</p> <p>10 THE REPORTER: There might be what?</p> <p>11 MS. STEWART: Three water wells.</p> <p>12 I'm sorry. What did you say?</p> <p>13 JUDGE WALSTON: Right. That was your</p> <p>14 question to him before. Right?</p> <p>15 MS. STEWART: Yes.</p> <p>16 Q (By Ms. Stewart) It looks like you have</p> <p>17 identified three water wells within one mile of the</p> <p>18 proposed facility. Does that sound familiar?</p> <p>19 A Let me look at that.</p> <p>20 Q And, again, that's TexCom Exhibit 20, Page</p> <p>21 179.</p> <p>22 A Okay.</p> <p>23 Q Mr. Casey, do you have Exhibit 20, Page 179,</p> <p>24 the revised version of Attachment B?</p> <p>25 A Yes, ma'am.</p>	<p>1 the map that show residential areas of adjacent --</p> <p>2 within the one-mile radius of the facility?</p> <p>3 A Well, it's a USGS topo, and houses are</p> <p>4 identified as a black square, basically, which are</p> <p>5 houses. And this is a typical map we've submitted</p> <p>6 with Class I applications. We've -- typically, USGS</p> <p>7 topo, which has all the required info that the State</p> <p>8 is asking about, and typically we pull the map and put</p> <p>9 our facility information on it and turn it in.</p> <p>10 Q Okay.</p> <p>11 A And it's been generally accepted.</p> <p>12 Q Okay. Thank you. That's all of the</p> <p>13 questions I have about Attachment B.</p> <p>14 Now I would like to change gears a</p> <p>15 little and focus on another map that was prepared and</p> <p>16 submitted in support of the application.</p> <p>17 You have testified on Page 12 of your</p> <p>18 prefiled testimony that it is your opinion that the</p> <p>19 TexCom UIC application contains all the information</p> <p>20 that's required by Administrative Code 331.121.</p> <p>21 That's, again, on Page 12, Lines 9 through 13. Is</p> <p>22 that correct?</p> <p>23 A (No verbal response)</p> <p>24 Q And in response to that question on Page 12,</p> <p>25 when asked if the UIC application contained all the</p>

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<p style="text-align: right;">Page 210</p> <p>1 information required by that TCEQ statute, you 2 identified a 2.5-mile area of review map attached as 3 Figure VIII. 4 A Yes, ma'am. 5 Q Okay. If you could -- again, I would bother 6 you to obtain that map. It appears this was also 7 revised. 8 JUDGE WALSTON: Can you give us the 9 exhibit and page number? 10 MS. STEWART: Yes, Judge. It is TexCom 11 Exhibit 6, Page 166. 12 A Is that the revised version? 13 Q (By Ms. Stewart) The revised version of the 14 2.5-mile area of review map is TexCom Exhibit 56, Page 15 202. I believe it's 56 that would be -- 16 (Brief Pause) 17 MR. RILEY: I think it's in the Binder 18 12 of 15. The thin binder that has Mr. Casey's 19 testimony. 20 (Brief Pause) 21 JUDGE WALSTON: Oh. Here it is. It's 22 with his testimony. 23 A I had the same problem. 24 (Laughter) 25 MS. STEWART: May I proceed?</p>	<p style="text-align: right;">Page 212</p> <p>1 that -- it was brought up that the area of review map 2 was wrong. And I looked and it's like, "Okay. We got 3 the wrong one in there." This is a map we had 4 originally prepared that didn't make it into the 5 original application, and the biggest difference was 6 it didn't adjust the, you know, thousand or so, quote, 7 "north," take into account a 2-1/2-mile circle around 8 Well 4. 9 So you end up picking up, you know, two 10 or three extra wells in the area of review that are 11 actually included in our well table. The wells that 12 were on the edge were still included in our well 13 table. 14 Q Okay. Thank you for that clarification. 15 A You're welcome. 16 Q Again, looking at Texas Administrative Code 17 331.121, the requirements that specify what goes into 18 this area of review map that was revised in June of 19 2007, specifically, this map must include water wells. 20 Could you point me to the location of the water wells 21 on this area of review map? 22 A This area of review map is -- does not 23 include the water wells. This is our -- the deep 24 wells, lack-of-water wells. 25 Q So the water wells are not shown within the</p>
<p style="text-align: right;">Page 211</p> <p>1 JUDGE EGAN: Do we have it? 2 JUDGE WALSTON: Yes. 3 JUDGE EGAN: Yes. 4 MS. STEWART: Thank you. 5 Q (By Ms. Stewart) Mr. Casey, was this 6 2.5-mile area of review map revised in about June of 7 2007 to adjust the area of review? 8 A Yes, it was. 9 Q Could you explain that for the record, 10 please? 11 A The area of review map that was submitted 12 with the application, we drew the 2-1/2-mile circle 13 around the existing well, and in the process of when 14 we added the additional three well spots, we actually 15 did adjust the area of review and add -- you know, 16 because if you draw a circle around each well, 2-1/2 17 miles, you kind of have an oblong shape at a north, 18 northwest, southeast; it would be a little longer in 19 that direction. That map didn't make it in the 20 application. They pulled it -- you know, when they 21 were putting together the application, they pulled the 22 earlier version of it that actually went in the 23 application. 24 When we started, you know, getting 25 information for the hearing together, we noticed</p>	<p style="text-align: right;">Page 213</p> <p>1 2-1/2-mile radius of the proposed injection -- 2 A There is a -- there's a separate water well 3 map in the application itself in -- it's in Section V 4 of the application. It's TexCom Exhibit 6, Page 79. 5 That's the original submittal. 6 (Brief Pause) 7 Q (By Ms. Stewart) While you're looking for 8 that, Mr. Casey, can I ask you a question? What 9 you're referring to, is it in the form of a map or is 10 it textual information? 11 A It is a map. 12 Q Okay. 13 A In TexCom Exhibit 23, the text to Section V 14 of the application was updated as part of a NOD 15 process, and the latest version is TexCom Exhibit 23. 16 Page 32, the top figure, 5.B.2.2, is a map of the 17 TexCom injection facility and water wells' 2-1/2-mile 18 area of review. 19 Q Okay. Thank you. So the water wells were 20 not shown in the aerial review map. They were shown 21 separately in the application. 22 A Yes, they were. 23 Q Moving along in this Administrative Code, 24 Section 331.121 references that this map -- this area 25 of review map should also show faults if known or</p>

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<p style="text-align: right;">Page 214</p> <p>1 suspected. Could you point me to where faults are 2 shown on this area of review map? 3 A Faults are not shown on the area of review 4 map. They would be in the structure maps in Section 5 V. 6 Q And who prepared this area of review map? 7 A It was prepared by a person under my 8 direction at ALL. 9 Q Would the same -- would you answer the same 10 for the Attachment B that we referred to earlier, the 11 first line of questioning? 12 A Yes. 13 Q Okay. Thank you. 14 And referring to the TexCom application 15 materials itself, is it correct to say that Section 16 VIII generally describes the area of review? I 17 believe it would be TexCom Exhibit 6, but it's Roman 18 Numeral VIII. 19 A Yes. That's a discussion of the area of 20 review. 21 Q And so Section VIII.A describing the area of 22 review map, I have a question regarding a statement 23 that is contained in that section. 24 A Yes, ma'am. 25 Q That section specifically states that no</p>	<p style="text-align: right;">Page 216</p> <p>1 And in all of the applications I've ever 2 submitted, we've never gone and prepared a surface 3 fault map, per se, because we're typically more 4 interested in the faults down in the lower -- the 5 injection zone itself, the subsurface mapping. But if 6 there were surface faults, USGS would show them on the 7 map. 8 Q So they would be shown on this 2.5-mile area 9 of review map. Is that what you're saying? 10 A Yes, if USGS has identified them. 11 Q Okay. So could you explain to me again why 12 the application says no surface faults were known to 13 occur in the area of review? 14 A Based on the information at the time, we did 15 not find any surface faults in the area of review 16 based on USGS information. 17 Q Let me direct you to your prefiled testimony 18 again, Page 32, Lines 27 through 28 where you state 19 that numerous faults formed radially across the top of 20 the salt dome as it pushed upward. So are these 21 faults that you're referencing in your prefiled 22 testimony shown on any maps contained within the 23 TexCom application? 24 A Yes. They're shown on the structure maps of 25 the Cockfield formation and the Jackson shale.</p>
<p style="text-align: right;">Page 215</p> <p>1 surface faults are known to occur in the area of 2 review. 3 A That's correct. 4 Q Does that conflict with information you just 5 gave me that surface faults are shown in the structure 6 map? 7 A Surface faults -- excuse me. Surface faults 8 are not shown on a structure map. I thought you were 9 talking about faults down in the Cockfield formation. 10 Q All right. So -- 11 A I may have misunderstood you. I heard you 12 said surface faults. I'm sorry. Maybe I 13 misunderstood what you asked. 14 Q Okay. Well, the Administrative Code Section 15 331.121 asks that an applicant show faults if known or 16 suspected on this area of review map. 17 A Right. 18 Q And you're saying that no faults are shown on 19 this area of review map. Correct? 20 A There may be faults shown. The USGS, 21 typically, will show them if there is a surface 22 expression of them. Typically, the TCEQ accepts a 23 USGS topo map as being -- showing all the required 24 information as part of surface, bodies of water or 25 surface items that they require on their list.</p>	<p style="text-align: right;">Page 217</p> <p>1 Q Where are these located in the application? 2 Do you know? 3 A It would be in Section V of the application, 4 TexCom Exhibit 20, and there's a number of structure 5 maps. On Page 171 is a -- that's not the right one. 6 Page 172 is a structure map of top of 7 the upper Cockfield, and it likely shows -- oh. 8 That's not the right one. 9 Q Did you say it was TexCom Exhibit 20? 10 A Exhibit 20, yes, ma'am. 11 JUDGE WALSTON: Can you look on the 12 front of the binder and tell me what volume it is? 13 A Yes, sir. It's Volume 10. 14 Look at Page 173, "Structure Map, 15 Top/Upper Cockfield." 16 JUDGE EGAN: Hold on just a second. 17 A Sure. 18 (Brief Pause) 19 JUDGE WALSTON: What page? 20 JUDGE EGAN: 173. 21 A 173. Figure V.B.1.7. 22 JUDGE EGAN: Figure V.B.1.7? 23 A Yes, ma'am. 24 Q (By Ms. Stewart) So is it your opinion that 25 these maps you're referencing comply with TCEQ rule</p>

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<p style="text-align: right;">Page 218</p> <p>1 that requires delineation of all faults within the 2 area of review together with the demonstration that 3 the fault is not sufficiently transmissive or 4 vertically extensive to allow migration of hazardous 5 constituents out of the injection zone? 6 A Well, we don't have any hazardous 7 constituents, but it's -- yes, it does meet the TCEQ 8 requirements. 9 Q I apologize. I cannot locate at this minute 10 in your testimony where you speak of significant 11 faults and minor faults. Do you recall that portion 12 of your testimony, sir? 13 A Not off the top of my head. No, ma'am. 14 Q Okay. Would you use those terms to define 15 faulting generally, minor versus a significant fault? 16 A It would depend on what I'm talking about. 17 JUDGE EGAN: If you look at Page 39, 18 there's a reference to minor fault. I don't know if 19 that's what you were referring to. 20 MS. STEWART: Thank you, Judge. 21 Q (By Ms. Stewart) Line 8, the question is 22 asked "Are there any other significant faults that are 23 closer to the site," and you answer, "We would have 24 identified from our geological review any significant 25 faults in the area."</p>	<p style="text-align: right;">Page 220</p> <p>1 the subsurface through, you know, a well log or a 2 change in the -- and level of formation. We've 3 identified all faults that were -- could be 4 identified. 5 Q How many faults did you identify? 6 A I believe there's one to the south and 7 there's another -- I think there's another one shown 8 further south -- 9 Q Two faults? 10 A -- on our maps. 11 Q Switching gears a little bit, going back to 12 your prefiled testimony, Page 34, Lines 7 through 8, 13 you reference that the well modeling conducted by 14 TexCom shows that the waste plume has only traveled 15 2,770 feet from the wellbore within the lower 16 Cockfield. Correct? 17 A What line -- oh. Here you are. 18 Q Lines 7 through 8 on Page 34. 19 A Yes, ma'am. That's correct. 20 Q Page 35, Lines 24 through 25, again -- and if 21 I'm misquoting you or misrepresenting what you have 22 testified to here, please let me know. You testify 23 that the only way injected wastewater can migrate up 24 and out of the lower Cockfield would be if it traveled 25 horizontally all the way to the fault and then</p>
<p style="text-align: right;">Page 219</p> <p>1 A That's correct. 2 Q And then, again, Page 39, Line 14, you 3 testify, "It is theoretically possible that there are 4 very minor faults sporadically located throughout the 5 area. These faults would be small and not extend 6 above the Jackson shale." Is that -- I'm reading that 7 correctly. Right? 8 A Yes. I mean, there could be faults in the 9 reservoir that you -- that are -- have little or no 10 displacement. They would be considered a fault, but 11 that doesn't mean they've actually moved, you know, 12 laterally or vertically in the reservoir. And, you 13 know, through our geologic study, and, you know, 14 development of our cross-sections through a number of 15 well logs all directions from the site, we identified 16 the only faults that are shown in the mapping, which 17 is -- if you look at Exxon maps, you'll see the same 18 faults that we've shown on our maps. 19 Q Thank you. However, I just would like to 20 emphasize again, that, looking at this Section (P) of 21 the TCEQ Rule 331.121, when it specifies the 22 delineation of all faults within the area of review, 23 is it your testimony that an applicant can choose to 24 omit what it considers minor faults? 25 A You can't show a fault that's not shown in</p>	<p style="text-align: right;">Page 221</p> <p>1 vertically. 2 A Yes, ma'am. 3 Q Which fault are you referencing there? 4 A That would be the fault to the south -- 5 4,400 feet to the south. 6 Q So it's your testimony that TexCom has 7 identified two mapped faults within the area of 8 review. 9 A (No response) 10 Q Theoretically, if additional faults -- 11 MR. RILEY: Is there a question before 12 the witness? I did not hear him respond. 13 JUDGE WALSTON: I think she was just 14 predicating the question. 15 MR. RILEY: Sorry. 16 Q (By Ms. Stewart) Mr. Casey, according to 17 that testimony, if additional faults are mapped, are 18 found to be mapped through the course of these 19 proceedings within 2,770 feet of the wellbore, is it 20 your testimony, then, that injected wastewater could 21 migrate up and out of the lower Cockfield, based on 22 your own modeling? 23 A No, ma'am. 24 Q Okay. Let's move to the cone of influence, 25 which, based on the corrections to your prefiled</p>

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<p style="text-align: right;">Page 222</p> <p>1 testimony, I understand that should have been 750 feet 2 in the application materials, not 150 feet. 3 A Correct. 4 Q Correct? 5 Okay. And you've identified additional 6 wells that would be located within that 750 feet from 7 the wellbore. 8 A Yes, ma'am. 9 Q Okay. Could you please tell me the source of 10 your information for these six identified wells that 11 you referenced in the corrections submitted today? 12 A What do you mean by the source of the 13 information? 14 Q How did you determine the depth that -- these 15 wells identified in this testimony, how did you 16 determine the depth that they were drilled? 17 A From well records. 18 Q Were you able to find well records on each of 19 these identified wells? 20 A We have all but one, because one of the wells 21 was misidentified. The well number -- the well 22 record, actually, in the well records of the 23 application were the same operator well number, but 24 it's actually a different tract. It's actually 25 located about five miles south. It has the exact,</p>	<p style="text-align: right;">Page 224</p> <p>1 time for a break? 2 JUDGE EGAN: Do you want to get to 3:00 3 or right now? 4 JUDGE WALSTON: Well, if he needs some 5 time to -- 6 A I've got to find the map. 7 JUDGE EGAN: All right. How long do you 8 need? 9 MR. RILEY: I only need a couple of 10 minutes, but I do need a couple of minutes. 11 JUDGE EGAN: All right. Why don't we 12 reconvene a quarter after 3:00. 13 (Recess: 2:55 p.m. to 3:09 p.m.) 14 JUDGE EGAN: All right. We'll go ahead 15 and go back on the record. 16 Ms. Stewart, you may proceed. 17 A The well I was referencing was C-4. In the 18 well records section of the application, it's Volume 19 4, TexCom Exhibit 8, Page 20 is information on Map ID 20 C-4. 21 JUDGE EGAN: You need to speak up. 22 A I'm sorry. 23 TexCom Exhibit 8, Page 20, it's Map ID 24 C-4. The information that was obtained for the well 25 has a correct well number, but it's located in the</p>
<p style="text-align: right;">Page 223</p> <p>1 same information in the header, but when you looked at 2 the affect information, it was different. 3 In review of Railroad Commission 4 information, we have yet to identify any well records 5 for that well, whether it exists or not. In 6 discussions with the Railroad Commission, using their 7 mapping system, there was two well spots that had the 8 same -- relatively same number. One was 129 and one 9 was 29, and the Railroad Commission said that's 10 actually the same well. There's only one well there. 11 There was two spots on their map. It's just one well, 12 and we have data for that well. 13 Q So you testify that C-4, C-7, C-8, C-12, 14 C-425 and C-428 are all within 750 feet from the 15 proposed injection wells. Correct? 16 A Correct. 17 Q And you may have already stated this, but 18 which well were you just discussing? What was the 19 number of the well you were just discussing that was 20 misidentified? 21 A I don't remember which C number it was now 22 off the top of my head. Let me look at my well map 23 here. Bear with me for a second. 24 (Brief Pause) 25 MR. RILEY: Would this be a convenient</p>	<p style="text-align: right;">Page 225</p> <p>1 wrong survey. So it's not -- the well data in the 2 application is not for the well that's located where 3 C-4 is located. That's the only well that -- in the 4 cone of influence that we didn't have actual well data 5 for. 6 Q (By Ms. Stewart) Well, you just put the 7 exhibit away, but when you were looking at that, did 8 you notice how deep C-4 was? Did you -- 9 A Well, it's not the correct well record, so -- 10 Q But C-4 is mentioned as being within 11 750 feet. So how -- what records are you using for 12 the depth of that well? 13 A The wells from -- from the research we've 14 done and the work we've done, the area north of the 15 fault, most of your wells are completed in the upper 16 Cockfield. There's been no identified production from 17 the lower and the middle north of the fault, and so 18 even wells that might have been drilled deeper were 19 plugged back into the upper Cockfield for production. 20 There's just -- you know, they wouldn't leave it open 21 to the lower zones unless they make saltwater for the 22 lower zones. 23 So all the wells in this general area 24 were permitted around the same time, in the 1930s, and 25 they were all drilled relatively, you know, in the</p>

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<p>1 same time period by the same company. All were 2 completed in the upper Cockfield. And so our belief 3 is that all these wells within this area are completed 4 in the upper Cockfield. There's no data that tells me 5 it would be any different. 6 Q Mr. Casey, by the same argument, though, 7 there's no data that tells you exactly how deep, for 8 instance, C-12 was drilled. 9 A Yes, there is. 10 Q In the application -- if I may approach. 11 MS. STEWART: May I approach the 12 witness, please? 13 JUDGE EGAN: Yes, you may. 14 MS. STEWART: I'd like to -- 15 JUDGE EGAN: What number do you want 16 this marked as? 17 MS. STEWART: I don't know if we should 18 do it sequentially as far as the exhibits that have 19 been marked thus far -- 20 (Brief Pause) 21 JUDGE EGAN: How have you marked your 22 other exhibits? 23 MS. STEWART: AP -- 24 JUDGE WALSTON: Aligned Protestants. 25 (AP Exhibit No. 6 marked)</p>	<p>1 well location. 2 Q So correct me if I'm wrong, you're still in 3 the process of locating the data for C-4. 4 A Correct. 5 Q But you're still confident, based on your 6 belief, that that well would not penetrate lower than 7 the upper Cockfield. 8 A That is correct. 9 Q Thank you. 10 JUDGE EGAN: Did you want AP Exhibit No. 11 6 admitted? 12 MS. STEWART: Yes, Your Honor, I would. 13 I would offer AP Exhibit No. 6. 14 JUDGE EGAN: Any objection? 15 MR. RILEY: No objection, Your Honor. 16 JUDGE EGAN: AP Exhibit 6 is admitted. 17 (AP Exhibit No. 6 admitted) 18 Q (By Ms. Stewart) Mr. Casey, I'd like to 19 address one last issue with you based on your prefiled 20 testimony. Specifically, on Page 54, you reference 21 the public interest demonstration that was attached to 22 the application -- I believe it was the UIC 23 application at Attachment C. Correct? 24 A Yes, ma'am. 25 Q Specifically, on Page 54, you were asked the</p>
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<p>1 Q (By Ms. Stewart) The information I just 2 handed you came from the actual application materials, 3 TexCom Exhibit 8, Page 44, and then I know that in 4 your recalculated cone of influence the Well C-427 5 appears to have been removed, so you can just ignore 6 that copy. And then there's also a well diagram for 7 C-428. 8 And all these were contained in the 9 application material and they all have a handwritten 10 note that there is no well file or data available for 11 these wells at the time the application was submitted. 12 A That's correct. 13 Q Do you have any documentation available now 14 that shows how deep these wells were drilled? 15 A Yes. We -- additional research has been 16 done, and they've located -- we've located records for 17 each of those wells within the cone of influence 18 except for C-4. 19 Q Okay. 20 A And C-4, we're still in the process of trying 21 to find information on it. Since -- because as we 22 were going through well records, you know, getting 23 ready for the hearing, we noticed that it was actually 24 the wrong well data in the application. So now we've 25 gone back and trying to find the right data for that</p>	<p>1 question "Do you believe that TexCom's proposed 2 facility is in the public interest?" Your answer was 3 "Yes," and then you quote Texas Health and Safety Code 4 Section 361.0231, which -- are you familiar with that 5 statute? 6 A To some degree, yes, ma'am. I have seen it 7 before. 8 Q The policy behind that statute -- correct me 9 if I'm wrong -- this isn't a question -- is that it's 10 the state public policy that adequate capacity should 11 exist for the proper management of industrial waste 12 generated in this state, meaning the state of Texas. 13 Is that correct? 14 A Yes, ma'am. 15 Q There has been some testimony by Mr. Ross 16 that the list of waste generators that was appended to 17 the application has been revised. Is that correct? 18 A As far as, you know, what Mr. Ross said, 19 that's all I have to go on. 20 Q Well, there was a table attached to TexCom's 21 UIC application that identified potential waste 22 streams, sources of waste. 23 A Yes, ma'am. 24 MS. STEWART: May I approach? 25 Q (By Ms. Stewart) Rather than have you dig</p>

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<p style="text-align: right;">Page 230</p> <p>1 through the volumes of notebooks again, I will offer 2 another exhibit, AP-7, which is Table IX.B, "Injected 3 Waste Streams." 4 (AP Exhibit No. 7 marked) 5 Q (By Ms. Stewart) Again, this is contained in 6 TexCom's UIC application. 7 Mr. Casey, who prepared this table? 8 A TexCom prepared the table. 9 Q And what information was used to prepare this 10 list of potential protected waste streams? 11 A That, I don't know. 12 Q Okay. Are you familiar with TCEQ's 13 classification of waste codes that's referenced in 14 this last column, "TCEQ Waste Codes"? 15 A Not specifically. No, ma'am. 16 MS. STEWART: May I approach? 17 JUDGE EGAN: Yes. 18 MS. STEWART: I have with me the 19 "Guidelines for the Classification and Coding of 20 Industrial and Hazardous Waste" produced by the TCEQ 21 available on its website. 22 JUDGE EGAN: This is AP No. 8? 23 MS. STEWART: Yes, Judge. No. 8. 24 (AP Exhibit No. 8 marked) 25 Q (By Ms. Stewart) I've included the entire</p>	<p style="text-align: right;">Page 232</p> <p>1 waste. 2 MS. STEWART: Your Honors, I have one 3 additional exhibit that came from the TexCom 4 application I'd like to offer, AP-9. 5 (AP Exhibit No. 9 marked) 6 JUDGE EGAN: And did you want to offer 7 AP Exhibit No. 6 -- excuse me, 7 and 8? 8 MS. STEWART: Yes, Your Honor. I would 9 like to offer 7 and 8. 10 JUDGE EGAN: Any objections to AP 11 Exhibits 7 and 8? 12 MR. RILEY: No objections, Your Honor. 13 JUDGE EGAN: AP Exhibits 7 and 8 are 14 admitted. 15 (AP Exhibit Nos. 7 and 8 admitted) 16 Q (By Ms. Stewart) What I'm handing out right 17 now is a portion of a TexCom application, Table IX.A, 18 "Waste Management Information," that came from the UIC 19 application. 20 If you look in the middle column, 21 "Source," are you familiar with the letter and 22 numerical sequence "D0051"? 23 A I see it printed on here. Yes, ma'am. 24 Q Are you familiar with the significance of 25 that sequence of letters and numbers?</p>
<p style="text-align: right;">Page 231</p> <p>1 guideline manual, although I will only be referencing 2 certain portions. 3 Mr. Casey, if you'll look at that last 4 column, "TCEQ Waste Codes," what would you -- in the 5 first line, what would you opine that the source code 6 "OUTS" would signify? 7 A I have no idea. 8 Q Okay. The Guidelines for the Classification 9 and Coding of Industrial and Hazardous Waste, which I 10 have just offered as an exhibit, defines that as waste 11 generated outside the state of Texas. 12 A If you say so. 13 Q So, initially, did TexCom consider accepting 14 waste generated outside the state of Texas for 15 disposal at its facility? 16 A That, I don't know. 17 Q In your opinion, you have testified that you 18 believe that the public interest is served because 19 you're serving in-state generators. Is that correct? 20 A Yes, ma'am. 21 Q Would it change that opinion regarding the 22 public interest if you saw that TexCom was proposing 23 to accept waste generated by out of state? 24 A In all my dealings with TexCom, they've never 25 indicated to me they were accepting out-of-state</p>	<p style="text-align: right;">Page 233</p> <p>1 A No, ma'am. 2 Q If you would, turn to -- I believe that's 3 Aligned Protestants' Exhibit 7, the guidelines for the 4 classification, could you read that -- 5 JUDGE EGAN: The Coding is 8. 6 Q (By Ms. Stewart) The Coding exhibit, marked 7 as Aligned Protestants' Exhibit 8, the last page, 48, 8 Appendix H, the larger document, could you please 9 locate D0051 on the list of codes for states? 10 A Okay. 11 Q Could you please read that source that's 12 identified as "Waste Management Information" on 13 TexCom's exhibit? Could you please identify that 14 source, D0051, for the record? 15 A It says Virginia. 16 MS. STEWART: Thank you. That's all I 17 have. I pass the witness. 18 JUDGE EGAN: Do you want to offer AP 19 Exhibit No. 9? 20 MS. STEWART: Yes, Judge. I would like 21 to offer AP Exhibit 9. 22 MR. RILEY: No objection. 23 JUDGE EGAN: AP Exhibit No. 9 is 24 admitted. 25 (AP Exhibit No. 9 admitted)</p>

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<p>1 JUDGE EGAN: Mr. Forsberg, you may 2 proceed. 3 MR. FORSBERG: Thank you. 4 CROSS-EXAMINATION 5 BY MR. FORSBERG: 6 Q Mr. Casey, my name is Kevin Forsberg. I have 7 just a few questions for you. 8 Trying to understand your earlier 9 testimony, are you saying that there are no wells 10 within the 2,700-foot plume that were plugged in the 11 middle Cockfield? 12 A In a 2,700-foot plume? 13 Q Or what's the plume of -- 14 A The cone of influence? 15 Q Yes. 16 A Cone of influence is 750 feet. 17 Q No. I'm sorry. The -- 18 A Waste plume? 19 Q -- migration -- 20 A Migration plume? 21 Q Yes. 22 A Off the top of my head, I couldn't tell you 23 if there was any wells plugged into the lower or 24 middle, but best of my recollection, there's not any 25 wells that are completed in the lower or middle</p>	<p>1 that correct? 2 A Yes, sir. 3 Q There's a well 69-D -- you may have that 4 marked as 69-D. 5 JUDGE WALSTON: What exhibit number is 6 that? 7 MR. FORSBERG: I'm looking at their 8 application. I believe it's Page 169 of TexCom's 9 application. I don't have the exhibit number in front 10 of me. 11 A It's TexCom Exhibit 8. 12 JUDGE EGAN: Thank you. 13 A Page 49. 14 Q (By Mr. Forsberg) Did you locate C-17? 15 A Yes, sir, I did. 16 Q Okay. Do you have any reason -- if I call it 17 or mention 69-D, do you have any reason to say that 18 they're not the same well? 19 A No, sir. That's the well number according to 20 the records. 21 Q Okay. And how far away is that well from the 22 proposed injection site? 23 A Well, in this paper, it says 5,700 feet, but 24 it's just shy of half a mile away. 25 Q Would it surprise you if the actual distance</p>
Page 235	Page 237
<p>1 Cockfield. 2 Q All right. And can you just, for the record, 3 explain the distinction between "completed" and 4 "plugged"? 5 A Completed means, you know, actively open, an 6 open wellbore with nothing -- you know, no plug of any 7 sort in the casing versus a plugged well which would 8 have been, you know, plugged back to the upper 9 Cockfield. You'd have cement or mechanical plugs set 10 below the upper Cockfield to prevent inward flow of 11 brine. 12 Q So why would there be, if there is, a plug in 13 the middle Cockfield of a well within that migration 14 plume? 15 A If the operators -- there's a number of 16 instances in the 2-1/2-mile AOR where operators drill 17 deep looking for other types of oil production. If 18 they came back dry holes, they'd typically plug back 19 up through the upper Cockfield where your production 20 comes from in the Conroe field. 21 Q Okay. Are you familiar with Well C-17? 22 A C-17? Not off the top of my head. Can you 23 identify it? 24 Q In the railroad records, do they often -- 25 they have different identifiers for the wells. Is</p>	<p>1 was around 1,200 feet, if the evidence showed that? 2 A Without measuring it, I couldn't agree with 3 that. 4 Q Okay. What's the depth of Well C-17? 5 A Total depth, 5,725. 6 Q So if it was shown that that well was 7 actually only 1,200 feet from the injection site, 8 would that change any of your conclusions? 9 A No, sir. It's outside the cone of influence; 10 so it's not a problem. It's not in the lower 11 Cockfield. 12 Q Okay. But it is in the middle Cockfield. 13 Correct? 14 A Potentially. I'd have to look at it on a 15 structure map to see where it actually TDs at. 16 Q Okay. Well, your testimony is that the 17 middle Cockfield would include a depth of 5,725 feet. 18 Correct? 19 A Let's see here. 20 Q I think if you look at Page 32 of your 21 prefiled testimony, you have "The middle Cockfield, 22 which occurs at 5,629 to 6,045 feet." 23 A At WDW-315, the middle Cockfield is at 5,629. 24 Correct. 25 Q Okay. And on that -- just below that, you</p>

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<p style="text-align: right;">Page 238</p> <p>1 have "TexCom will be injecting wastewater at 6,045 to 2 6,390 feet" -- 3 A Correct. 4 Q -- within that interval. 5 A Yes, sir. 6 Q So the distance between the bottom of Well 7 69-D or C-17, as it may be called, the bottom of that 8 well where it is plugged is actually only about 9 300 feet from the top of where TexCom is going to be 10 injecting the wastewater. 11 A Vertically, about 300 feet. Horizontally, 12 you know, over a quarter mile. It's in the middle 13 Cockfield. We're separated by a layer of shale. 14 It's -- you know, it's not within the cone of 15 influence. There's no -- in the criteria in which you 16 evaluate wells for whether they need to be addressed, 17 you know, cone of influence, it doesn't meet the 18 criteria. It's not in the zone of injection. 19 Q Are your calculations exact, meaning, to the 20 foot, it's going to be 750 feet? 21 A Our calculations are actually conservatively 22 high. In reality, the cone of influence would be 23 significantly less because the actual thickness of the 24 lower Cockfield is more than 145 feet. So as you 25 inject into the zone, instead of just injecting into</p>	<p style="text-align: right;">Page 240</p> <p>1 (Brief Pause) 2 A If you look in TexCom Exhibit 20, Page 166, 3 this is where the 150 feet comes up in the discussion. 4 When this table was built in the 5 original application, the pressure of 150 feet was 6 less than the calculated cone of influence, because 7 there was a wrong gel strength that was used in that 8 cone of influence calculation. When we corrected it, 9 the correct maximum model pressure increase is 456 10 psi, which is at a -- you know, at 150 feet. That's 11 higher than the maximum allowable pressure increase of 12 421. If you -- using this same number, if you look at 13 how the pressure decays and you actually go out and 14 look where it actually crosses 421 psi, that's where 15 you hit 750, because you're on the flat part of the 16 curve. And so you're going distance as you drop down 17 and get out to 750 feet when it gets to 420 psi value. 18 Q (By Mr. Forsberg) That's based upon 19 assumptions. Correct? 20 A On very conservative assumptions. 21 Q On what do you base your opinion that the 22 presumptions are conservative? 23 JUDGE EGAN: Are what? I'm sorry. 24 Q (By Mr. Forsberg) Are conservative. 25 A Can you restate that? I missed the first</p>
<p style="text-align: right;">Page 239</p> <p>1 the 145 feet, you're actually injecting into 340 feet 2 of formation. So your pressure build-up is going to 3 be considerably less. 4 Q So you're saying that you have such a good 5 picture of what's occurring at 6,000 feet below the 6 ground that they're using numbers that are ultra 7 conservative just to do so? 8 A We're ultra conservative to be protective of 9 the environment. We're looking at a -- more of a 10 worst-case scenario, when, in reality, it's going to 11 be significantly less. 12 Q But when you initially filed your testimony, 13 it was -- what -- 150 feet? 14 A That was from a mistake in the initial 15 application. 16 Q Well, how do we know 750 feet isn't a mistake 17 as well? 18 A Because I've corrected it, and this is -- 19 750 feet is the correct version. We didn't change the 20 calculations. The distance as it was discussed, it 21 wasn't discussed correctly. 22 Q As we sit here today, how do we know that if 23 you go back and do it again it's not 1,000 feet? I 24 mean, 150 and 750 is a large discrepancy, is it not? 25 A If you look in section -- let's see.</p>	<p style="text-align: right;">Page 241</p> <p>1 part. 2 Q Well, you said that -- I mean, the 3 assumptions that go into this are very conservative, I 4 believe is your testimony. 5 A Yes, sir. 6 Q On what do you base that opinion? 7 A On the fact that we use 145 feet for our 8 thickness instead of 340 feet, which would cause a 9 larger pressure increase. Our model is a closed 10 system instead of an open system like the reservoir 11 would be which would cause a higher pressure increase. 12 You know, we use a conservative value of 13 permeability, when, in reality, it should be closer to 14 7- or 800 millidarcies, and we put in maximum 15 injection rates 365 days a year, 24 hours a day, which 16 the facility will never operate like that. So what 17 you will see over time in a facility that operates 8 18 to 10 hours a day is that the pressure increase is 19 very low, because every time they shut down, the 20 pressure decays. So instead of having this constant 21 injection building pressure, pressure -- it will start 22 pressuring up a little bit; then it will decay. 23 Pressure up a little bit and decay. 24 And so every year on their annual 25 testing, when they do their fall-off test, they'll</p>

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<p style="text-align: right;">Page 242</p> <p>1 do -- they'll monitor bottom hole pressure to 2 determine what the pressure has been built up to, and 3 you plot that against what you -- you know, on your 4 annual report to TCEQ, you compare that to what your 5 model predicted, and I -- you know, I've never seen a 6 Class I site ever come close to what the model says is 7 going to happen. We've always been significantly 8 less. 9 Q And I believe your testimony was that you 10 have quite a bit of experience with Class I injection 11 wells. 12 A Yes, sir. 13 Q Is that primarily the job that you do? 14 A Yes, sir. I've been in the UIC program for 15 over 20 years, started off as an EPA inspector 16 inspecting Class I, Class II injection wells, testing 17 them. I took over management of the inspection 18 program, taught UIC inspector training to EPA and 19 States. I've been working for numerous industrial 20 clients, you know, Dupont, Dow Chemical, Monsanto. 21 I've done, you know, hazardous waste injection wells, 22 permits, petitions. So I've been in a number of Class 23 I, you know, industrial wells. 24 Q So is it safe to say that ALL Consulting's 25 business is primarily underground injection wells?</p>	<p style="text-align: right;">Page 244</p> <p>1 to help people choose the best option for their 2 potential waste stream. You know, injection wells 3 aren't cheap. They're very expensive propositions. 4 JUDGE WALSTON: What is an "RO unit"? 5 A Reverse osmosis. It's becoming a big deal in 6 the wastewater and groundwater treatment issue, which, 7 people can't meet their discharge criteria. 8 Q (By Mr. Forsberg) So which of these 9 alternatives did you discuss with TexCom prior to 10 beginning work on a UIC well? 11 A TexCom had already taken care of that. I did 12 not work with them up until they needed a permit 13 application. 14 Q So you really didn't look at the possibility 15 of alternate sources of disposal? 16 A No, sir. I did not work with them on that. 17 Q Okay. So when you testify that you think 18 it's in the public interest that this UIC well go in 19 place instead of other off-site facilities or 20 incineration facilities, you actually never looked 21 into those things. Right? 22 A At this specific site, I did not, but my past 23 history, we have looked at this in various different 24 ways, and it -- the thing about injection wells is, 25 you know, you don't -- you're not putting it back into</p>
<p style="text-align: right;">Page 243</p> <p>1 A It's a portion of our business. We're a 2 multidisciplinary firm. 3 Q How much of it is your business? 4 A Probably 80 percent of what I do is injection 5 wells. 80, 85 percent. 6 Q So when you say in your testimony that 7 there -- other possibilities really aren't feasible, 8 such as incineration plants, other types of disposal, 9 you would admit that you have an economic interest in 10 underground injection wells being a popular choice 11 amongst generators? 12 A You would think that, but, in reality -- I 13 mean, a lot of times we're hired by clients to help 14 them determine what's the best way. You know, we 15 bring in, "Hey, injection wells are something to look 16 at," and we look at -- you know, I've worked with 17 clients on, you know, looking at land disposal, you 18 know, putting wastewater treatment plants, you know, 19 putting RO units. We help some of our clients do RO 20 units; then go to injection well with a reject out of 21 that. 22 You know, we -- we come in to do what's 23 best for the client. You know, we -- you know, I stay 24 busy, you know. I don't have to go out and chase a 25 bunch of -- you know, make up work. You know, we want</p>	<p style="text-align: right;">Page 245</p> <p>1 the ground. You're disposing of it in a place that's 2 never going to -- you know, it's complete disposal. 3 You're not generating additional air issues by, say, 4 like, incineration. You're not filling up a landfill. 5 You're not treating it and putting that water into 6 a -- you know, into the surface water issue. 7 Q How many other facilities are within a 8 100-mile radius of this proposed facility that could 9 accept this kind of waste? 10 A I only know of two. 11 Q All right. So there's two other facilities 12 within 100 miles or so that could accept this kind of 13 waste? 14 A That's all I know of. Yes, sir. 15 Q Okay. Is it good to have multiple facilities 16 that can accept the same type of waste? 17 A Yes, sir. 18 Q It is good to do that? 19 A Yes, sir. 20 Q And why is that? 21 A It's -- the economics of being -- having 22 somewhere to take your waste when you need to dispose 23 of it. I have clients that, you know, have an upset 24 in their plan, and all of a sudden, they have a bunch 25 of additional water that they don't normally have to</p>

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<p style="text-align: right;">Page 246</p> <p>1 deal with, and so they have to have somewhere to send 2 it. To try to send it down to the ship channel, you 3 know, a non-hazardous load of wastewater is going to 4 sit for eight to ten hours before it's even allowed on 5 the facility, unless it's hauled by the company's own 6 trucks. You know, you end up spending a significant 7 amount of money trying to find somewhere to take the 8 wastewater. So the more alternatives they have, 9 it's -- you know, from an economic standpoint for 10 these companies that are out there, it's -- you know, 11 having additional choices can be a godsend, because 12 there are times that these facilities get full and you 13 cannot unload there. 14 Q Look at Page 55 of your prefiled testimony -- 15 actually, I want to refer to Page 54 first where the 16 question was asked on Line 19, "Please elaborate on 17 why you believe TexCom's proposed facility is in the 18 public interest." And then on Line 3, part of your 19 answer on Page 55, you state, "The public benefits 20 when the economy of scale efficiencies and cost 21 reduction is achieved through consolidated waste 22 disposal." And right before that, "Additionally, 23 overall risk reduction from regional waste disposal is 24 achieved through consolidated commercial disposal of 25 waste, as opposed to multiple waste disposal sites."</p>	<p style="text-align: right;">Page 248</p> <p>1 of your response, "TexCom's proposed facility will 2 provide a safe, efficient and risk-reducing wastewater 3 disposal service that will serve in-state generators." 4 Is there any reason you use the word "in-state" as 5 opposed to local or some other regional term? 6 A No, sir. 7 Q So is it your understanding that TexCom is 8 going to be accepting waste from all over the state of 9 Texas? 10 A Yes, sir. 11 Q Based on your experience and belief, do you 12 believe a majority of the waste that TexCom accepts at 13 this facility, should the permits be granted, will 14 come outside -- will originate outside of Montgomery 15 County? 16 A No. I believe most of the waste would come 17 within the Montgomery County area. 18 Q And on what do you base that statement? 19 A For a person who's trying to dispose of 20 waste, you want to go to a -- the closest facility 21 that has a reasonable disposal cost. 22 Trucking costs are very expensive. You 23 know, with the price of diesel at two -- you know, 24 three bucks a gallon, it's very expensive to truck 25 waste 100 miles. So if they can truck it, you know,</p>
<p style="text-align: right;">Page 247</p> <p>1 A Okay. 2 Q Did you not just tell me that multiple waste 3 disposal sites are in the public interest? 4 A Well, the problem is there's not multiple 5 sites for -- there's very few sites that can take 6 Class I waste, and the problem you run into is if the 7 one or two sites that are there are unavailable to 8 you, you're having to store the stuff on site, which 9 is a hazard, and so having an additional site 10 available for -- specifically for Class I industrial 11 wastewater is in the public interest. 12 What we're referring to there is having 13 these companies -- smaller companies trying to manage 14 their own waste and treat their own waste. You end up 15 with -- 16 MR. FORSBERG: I'm going to object. I 17 think he's moving on to just lecturing us as opposed 18 to answering the question. 19 JUDGE EGAN: Sustained. Just answer his 20 question. 21 A Okay. 22 Q (By Mr. Forsberg) If you would, look at Page 23 54, Line -- well, 10, again, the question is "Do you 24 believe that TexCom's proposed facility is in the 25 public interest," and then on Line 16, you're -- part</p>	<p style="text-align: right;">Page 249</p> <p>1 30 to 40 miles versus 100, 150, they're going to 2 choose a closer site, you know, assuming the prices 3 for disposal are similar. 4 Q And didn't you just mention a few minutes ago 5 that there aren't many choices for disposing of this 6 waste? 7 A That's right. 8 Q Well, then, if there aren't many choices, 9 then it's quite likely that a lot of this waste is 10 going to come from outside of Montgomery County, isn't 11 it? 12 MR. RILEY: Objection. He said -- the 13 testimony is choices in Montgomery County or in this 14 area. Counsel is mischaracterizing his prior answer. 15 JUDGE EGAN: Rephrase your question, 16 please, because I believe your initial question was 17 regarding Montgomery County. 18 (Brief Pause) 19 MR. FORSBERG: Excuse me. I'm trying to 20 rephrase it. 21 Q (By Mr. Forsberg) What other facilities are 22 located in adjacent counties that would accept Class I 23 industrial -- or non-hazardous waste in Montgomery 24 County? 25 A There's a facility over in Liberty County and</p>

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<p style="text-align: right;">Page 250</p> <p>1 one in Harris County. 2 Q Okay. What about Walker County, Grimes 3 County, San Jacinto County? 4 A Those are two I know of right now. 5 Q Okay. So where are those people in those 6 counties going to -- or generators going to dispose of 7 their non-hazardous waste? 8 A I can't answer for those generators. 9 Q But you're assuming that if the permits are 10 granted and TexCom is allowed to proceed, that as long 11 as they're closer to the TexCom facility than any 12 other, they're going to come here? 13 A That would be a fair assumption. 14 Q In your experience, is the Houston disposal 15 site or the Liberty County disposal site, are they 16 full or near full? 17 A I haven't heard recently. I haven't had to 18 deal with trying to get rid of any wastewater in the 19 past, you know, year or so. I couldn't tell you right 20 now. 21 Q I'm sorry. You haven't been involved in 22 getting rid of wastewater in years? 23 A No. I haven't had to get rid of any 24 wastewater for any of my clients in the past year, 25 approximately, here locally.</p>	<p style="text-align: right;">Page 252</p> <p>1 A Within the last year. 2 Q Within the last year? 3 A Yes, sir. 4 Q Okay. So you don't know, within the last 5 year, what the status of disposal is at Liberty County 6 or in Harris County? 7 A Not what -- as far as what their capacity is, 8 no. 9 Q And you had mentioned that trucking is very 10 expensive. 11 A Yes. 12 Q And truck drivers, in your experience, is it 13 safe to say, will take the shortest route between A 14 and B? 15 A Not necessarily. No, sir. 16 Q Okay. 17 A They will tend -- most facilities -- well, 18 like, take the commercial facility I deal with in 19 Tulsa. They -- when a truck driver is coming in, 20 they're given specific directions on how to get to the 21 site because some of the roads around their site are 22 not -- are off limits to tractor-trailers; so they 23 give them specific instructions on how to get to the 24 site. 25 Q Are the truck drivers required to follow</p>
<p style="text-align: right;">Page 251</p> <p>1 Q Okay. So when you state that truck drivers 2 or generators may have trouble finding a place to 3 offload their wastewater, it's just sort of a general 4 statement. It's not with regard to any personal 5 knowledge you have regarding the alternatives in 6 Liberty County or Harris County? 7 A I have worked with clients getting rid of 8 waste in Harris County, and -- Harris, Fort Bend, a 9 few other counties around Houston. 10 JUDGE EGAN: Both of you need to speak 11 up a little bit. 12 MR. FORSBERG: I'm sorry, Your Honor. 13 A I have -- you know, I've had clients I've had 14 to help get rid of wastewater, and the clients are 15 based out of Houston and Fort Bend Counties. I 16 have -- one of my clients is a commercial disposal 17 facility out of Oklahoma, and I work closely with 18 them, you know, helping them with their injection well 19 issues and discussions of where their waste comes 20 from. And they bring in -- most of their waste is 21 Oklahoma based, but they do bring in waste from other 22 states. 23 Q Okay. But just so I'm clear, you haven't 24 helped any of your clients get rid of waste in a 25 couple of years. Is that what you said?</p>	<p style="text-align: right;">Page 253</p> <p>1 that? 2 A Truck drivers can drive where they want to, 3 but they likely will not go down a road that's posted 4 "Load Limited." 5 Q On Page 55 of your prefiled testimony, Line 6 5, you talk about "Local economic stimulation will 7 result from the construction and operation of the 8 facility." Can you explain what you mean by "local 9 economic stimulation"? 10 A Well, you have to hire contractors to build 11 the facility, local -- you know, electricians, 12 concrete, wood, metal, you know, specialists in -- you 13 know, in different parts of the construction. They're 14 all going to be, you know, locally-based contractors. 15 They're not going to hire contractors, you know, out 16 of Beaumont. 17 Q Wouldn't hire a -- you know, someone out of 18 Oklahoma or anything like that. Right? 19 A No, sir. 20 Q How do you know that they're all going to be 21 local contractors? 22 A I don't know that they'll all be local. 23 Q How do you know that that will provide 24 economic stimulation through the construction and 25 operation of the facility?</p>

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<p style="text-align: right;">Page 254</p> <p>1 A Because TexCom would hire local contractors 2 to do the work rather than bring in people from 3 outside because it's less expensive. 4 Q How do you know that there are contractors in 5 the area that are qualified to construct such a 6 facility? 7 A There's a lot of oil field construction and a 8 lot of the same techniques apply to what they're 9 trying to build here. 10 Q Can you identify any local contractors that 11 would be qualified to build this facility? 12 A To build the entire facility, no, sir. 13 Q What economic stimulation does the local area 14 get from the operation of the facility? 15 A Diesel fuel, motels, truckers staying 16 overnight. There's, you know, employment, people 17 working at the facility. 18 Q When you made that statement, did you do any 19 analysis into the cost that could be suffered by the 20 local area due to increased truck traffic on roads and 21 so on and so forth? 22 A No, sir. 23 Q So, in fact, there may not be any economic 24 stimulation at all locally -- 25 A I don't know.</p>	<p style="text-align: right;">Page 256</p> <p>1 discussions with Louis Ross. 2 Q Okay. Have you talked to any of the 3 personnel that will be operating this facility? 4 A No, sir. They're not, you know, hired as of 5 yet. 6 Q Okay. So we don't know today whether they 7 will be highly qualified or not. We're just assuming 8 they will be. 9 A Based on TexCom's plans, they will be 10 qualified before they will be hired. 11 (Brief Pause) 12 MR. FORSBERG: Excuse me one second 13 while I get organized. 14 (Brief Pause) 15 Q (By Mr. Forsberg) Can you say with absolute 16 certainty that there are not well casings in the lower 17 and middle Cockfield? 18 A In what area? 19 Q Within -- just say at all. 20 A There are well casings that go through the 21 lower Cockfield. 22 Q Okay. And what are those casings -- what's 23 the significance of those casings? 24 A They were dry holes that were drilled, you 25 know, significant distance away from the proposed</p>
<p style="text-align: right;">Page 255</p> <p>1 Q -- even though you were willing to testify to 2 it. 3 A I believe that you -- building a facility 4 here will bring in additional business. 5 Q How are contractors normally located? When 6 you've helped other projects be built, how are they 7 located? Are there bids put out? 8 A Typically, yes, sir. 9 Q Okay. And it's normally the lowest bid that 10 wins. 11 A No, sir. 12 Q What factors go into that? 13 A Technical capability and cost. 14 Q Okay. So, again, you have to have people 15 qualified to do it. 16 A Yes, sir. 17 Q Okay. If you can, please turn to Page 54 of 18 your prefiled testimony. Specifically, Line 25, you 19 make the statement that "TexCom personnel will be 20 highly qualified." 21 A Yes, sir. 22 Q Is that correct? 23 On what do you base that statement? 24 A That comes directly from -- that's pulled 25 directly from the surface permit application and from</p>	<p style="text-align: right;">Page 257</p> <p>1 injection site. 2 Q Do those casings provide any -- in your 3 opinion, any potential route for wastewater? 4 A No, sir. 5 Q And you said you didn't have records on a 6 well identified as C-4. 7 A Yes. 8 Q Now, just -- were you saying that that well 9 was -- was that the well that's five miles away and 10 just mismarked, or was that a different well? 11 A The records in the application are for a well 12 with the same name and number, but it's located in a 13 different tract. It's not that well within that 14 tract. 15 Q Okay. So just -- how many wells within 16 700 feet of the injection well do we not have records 17 for? 18 A Just one. 19 Q So there's one? 20 A Yes. 21 Q You don't know how deep it is? 22 A No, sir. 23 Q Is there a way to test that? 24 A Not that I know of. 25 JUDGE WALSTON: Mr. Casey, your voice is</p>

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<p style="text-align: right;">Page 258</p> <p>1 dropping down. 2 A Sorry. 3 JUDGE EGAN: And I'll remind you that 4 when the air conditioner comes on, it -- if Counsel 5 will raise their voice, then I'm sure the witness will 6 take the hint and proceed accordingly. 7 JUDGE WALSTON: You can pull that 8 microphone closer as well. 9 UNIDENTIFIED SPEAKER: Can he move the 10 microphone closer to him? 11 JUDGE EGAN: We're trying to get him to 12 move it. 13 A I don't know if it would be possible to find 14 the well. You know, we're still looking for the well 15 records. We managed to find some additional well 16 records for wells we didn't find in the initial 17 application here just recently, and some has to do 18 with, you know, the clerk you get at the Railroad 19 Commission that's helping you. Some are better at 20 finding things than others. 21 Q (By Mr. Forsberg) Well, didn't you say that 22 when you do your calculations that you try to be 23 conservative and assume worst-case scenario? 24 A Yes, sir. 25 Q Well, isn't it a worst-case scenario that</p>	<p style="text-align: right;">Page 260</p> <p>1 into the lower Cockfield? 2 A Yes. 3 Q Meaning, you could get the equipment and do 4 the drilling. 5 A Yes. 6 Q It wasn't physically impossible? 7 A No, sir. 8 Q But you're assuming, based on your experience 9 and education, that it wouldn't have happened. 10 A Yes, sir. That's correct. 11 MR. FORSBERG: That's all I have, Your 12 Honors. Thank you. Pass the witness. 13 JUDGE EGAN: Thank you. 14 Ms. Collins. 15 MS. COLLINS: Thank you, Judge. 16 CROSS-EXAMINATION 17 BY MS. COLLINS: 18 Q Mr. Casey, you had stated in your prefiled 19 testimony that you spent about five years working for 20 Dupont managing Class I injection wells. Is that 21 correct? 22 A Yes, ma'am. 23 Q Okay. Did you work at all on Dupont's 24 Victoria plant injection well? 25 A I never actually worked in the Victoria</p>
<p style="text-align: right;">Page 259</p> <p>1 that well that we don't have records for drilled 2 straight down into the lower Cockfield and we just 3 don't know? 4 A Based on the wells within the tract where the 5 injection well is located, it would be a severe 6 anomaly that it was drilled below the upper Cockfield. 7 Q It would be a worst-case scenario? 8 A I don't think it would be even possible. I 9 mean, they just -- there's no production ever found 10 below the upper Cockfield within that tract. 11 Q Well, what about Wells C -- or D-69 and 57? 12 It's plugged at 5,700 feet. 13 A They didn't produce anything. They drilled 14 into the upper -- I mean, the middle Cockfield and 15 didn't find anything. 16 Q They drilled into the middle Cockfield. 17 A Correct. 18 Q How do you know they didn't find anything? 19 A Because a well was not produced. 20 Q Okay. So that I'm clear, it was technically 21 possible to drill into the lower Cockfield; you just 22 don't think it's probable that it would happen with 23 regards to Well C-4? 24 A Can you restate the question? 25 Q Is it -- was it technically possible to drill</p>	<p style="text-align: right;">Page 261</p> <p>1 plant, one of the few plants I didn't work at. 2 Q Okay. Were you aware that the Victoria plant 3 not too long ago amended its TPDS permit to eliminate 4 its injection well there? 5 A Well, they have 11 of them. Are they 6 eliminating all of them? 7 Q Well, I could testify, but my understanding 8 is that they had an elimination -- they were trying to 9 eliminate as many as possible. Do you know of any 10 elimination efforts? 11 A Dupont started a -- the chairman of Dupont 15 12 years ago decided he wanted to get out of injection 13 wells because their hazardous wells were reported 14 under Toxin Release Inventory as releasing to the 15 environment. So he put in a plan to start trying to 16 get out of their injection wells. A few of their 17 plants, you know, changed their processes up, put in, 18 you know, some treatment and were able to eliminate 19 one or two of their wells. As far as Victoria -- it's 20 likely they're trying to get rid of some of their 21 wells. They drilled the first Class I injection well 22 in the state at the Victoria plant over 75 years ago, 23 so -- 24 Q Okay. Thank you. 25 And during your time at EPA, you were an</p>

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<p>1 investigator, meaning enforcement rather than 2 permitting. Is that right? 3 A Yes, ma'am. 4 Q Okay. So you didn't work on any 5 permitting -- any UIC Class I permitting -- permits? 6 A Not during that time. 7 Q And you sealed the TexCom UIC applications. 8 Correct? 9 A Yes, ma'am. 10 Q Okay. You're here today sponsoring, then, 11 public interest demonstration in those applications. 12 A Yes, ma'am. 13 Q Correct? 14 And I'm sure you're aware that 15 demonstration is supposed to include an analysis of 16 alternate, practical, economic and feasible methods of 17 waste disposal for the proposed waste stream. Right? 18 A Yes, ma'am. 19 Q You're aware of that? 20 And you identified potential alternate 21 waste disposal methods in the application. Right? 22 A I don't remember specifically if we did or 23 not. I'll be honest with you. 24 Q Okay. Did you -- do you recall if you 25 prepared the alternatives analysis in the public</p>	<p>1 treat their own small waste streams. It's kind of a 2 cost-prohibitive option to them. 3 Q Okay. So Huntsman Chemical, for example, 4 would that be a small generator? 5 A No, not Huntsman. 6 Q Okay. 7 A There are a number of generators that will 8 dispose of at the site. Some of them are large, such 9 as Huntsman. Some of them are smaller companies 10 that -- you know, they may send a truckload a month 11 off for disposal. Companies that send small volumes 12 or even moderate volumes, depending on their actual 13 waste stream, it can be very expensive to develop a 14 treatment program for them to be able to treat and 15 dispose to a POTW. 16 Q Okay. So your opinion that it's the best 17 economic, practical and feasible alternative -- 18 injection is the best alternative for generators is 19 mostly based on the small producers of waste? 20 A It's based on small and large producers. 21 Q Okay. 22 A I believe that injection wells are one of the 23 best technologies for getting rid of wastewater, 24 because it doesn't -- it eliminates the constituents 25 from the environment completely. It puts them down</p>
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<p>1 interest demonstration? 2 A I personally did not prepare that. No, 3 ma'am. 4 Q Okay. Who prepared that? 5 A It was prepared by TexCom. I believe Allen 6 Blanchard prepared it. 7 Q Allen Blanchard. So your testimony on the 8 public interest in your prefiled -- and that's Page 9 54, I think. 10 A Yes, ma'am. 11 Q Okay. Starting on Page 54. Right? 12 A Yes, ma'am. 13 Q Okay. So you have an opinion about whether 14 alternatives are available. 15 A Yes, ma'am. 16 Q Okay. And the opinion that you developed 17 starting on Page 54 of your prefiled testimony, were 18 you comparing -- were you analyzing whether options 19 exist to TexCom rather than options that would exist 20 to other wastewater generators? 21 A I look at it more from other wastewater 22 generators. 23 Q Okay. 24 A A lot of them were smaller companies that -- 25 it'd be very hard for them to build facilities to</p>	<p>1 5- -- you know, 6,000 feet to where they're never seen 2 or heard from again. 3 Q Okay. So if -- if it's basically an 4 environmentally superior wastewater disposal method, 5 aren't you assuming -- well, you're saying that 6 because you think the water will never come into 7 contact with humans, plants and animals. Correct? 8 A Correct. 9 Q Okay. Wouldn't that -- in the ideal scenario 10 when operations were being performed without any 11 deviation from a permit in, say, a wastewater 12 discharge permit, wouldn't that effluent not adversely 13 affect human health and the environment, et cetera? 14 A Can you restate that again? 15 Q Sure. 16 A I lost you a little bit. 17 Q I apologize. I'll go through it a little 18 more specifically. 19 In the ideal scenario, if operations are 20 being performed without any deviation from the permit 21 for TexCom for the UIC wells, the injected wastewater 22 wouldn't adversely affect human health or the 23 environment. Right? 24 A Right. 25 Q Okay. Wouldn't that be the same for a</p>

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<p>1 wastewater discharge permit?</p> <p>2 A Not necessarily.</p> <p>3 Q Why is that?</p> <p>4 A In my opinion, a wastewater discharge</p> <p>5 permit -- most of them are -- you're still allowed to</p> <p>6 discharge a certain amount of waste in your waste</p> <p>7 stream, and the discharge -- what I've run into in</p> <p>8 recent years is -- you know, in working with some</p> <p>9 wastewater clients who actually -- you know, City</p> <p>10 of -- County of Santa Barbara and the City of</p> <p>11 Hollister in California, their wastewater discharge,</p> <p>12 they can't keep to their TMDL levels. They're</p> <p>13 exceeding their discharge criteria for solids or</p> <p>14 chlorides because of the -- it's getting harder and</p> <p>15 harder -- the criteria is getting harder and harder to</p> <p>16 meet, and so they're putting in new processes to pull</p> <p>17 out the higher -- higher salt content streams and</p> <p>18 actually putting in injection wells to get rid of a</p> <p>19 portion of their wastewater.</p> <p>20 And so the biggest concern I have is --</p> <p>21 even with a wastewater permit, is that, over time, you</p> <p>22 still are introducing some contaminants to the --</p> <p>23 granted, they're small, you know, numbers. You're</p> <p>24 still putting things back into the environment that,</p> <p>25 through a disposal well, they're eliminated from the</p>	<p>1 Q Do they identify them specifically?</p> <p>2 A More of a general, you know, aqueous -- you</p> <p>3 know, different types of aqueous waste streams.</p> <p>4 Q Okay. And, potentially, the degree of</p> <p>5 environmental protection would depend on specific</p> <p>6 characteristics of the waste stream as well.</p> <p>7 A Right.</p> <p>8 Q Is that correct?</p> <p>9 Okay. I don't mean to belabor this</p> <p>10 point and I'm not being repetitive, but in</p> <p>11 comparing -- since you have an opinion -- you didn't</p> <p>12 necessarily do the public interest demonstration in</p> <p>13 the application, but since you have an opinion in your</p> <p>14 prefiled testimony, were you comparing commercial</p> <p>15 disposal alternatives to commercial disposal</p> <p>16 alternatives -- injection or were you comparing the</p> <p>17 generators of waste there -- a potential wastewater</p> <p>18 discharge permit, for example, that they would build</p> <p>19 themselves to a commercial operation?</p> <p>20 A I was looking at it from a -- for an</p> <p>21 individual company to handle the treatment of their</p> <p>22 own waste versus sending it to a centralized facility</p> <p>23 where their -- you know, that's their -- what they do,</p> <p>24 is handle waste.</p> <p>25 Q Okay. So you weren't comparing, for example,</p>
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<p>1 environment completely.</p> <p>2 Q And so is the water that could potentially be</p> <p>3 recycled and reused. Correct?</p> <p>4 A Most of this water, I'm not sure you could</p> <p>5 recycle. It all depends on what contaminants are in</p> <p>6 it.</p> <p>7 Q Okay.</p> <p>8 A That's the biggest question, is if you could</p> <p>9 recycle it.</p> <p>10 Q And would feasibility of any specific waste</p> <p>11 treatment and disposal method depend on the specific</p> <p>12 characteristics of the waste stream?</p> <p>13 A Okay. Say that again.</p> <p>14 Q Okay. Would feasibility of any alternative</p> <p>15 treatment and disposal method depend on specific</p> <p>16 characteristics of the waste stream?</p> <p>17 A Yes.</p> <p>18 Q And you didn't identify specific</p> <p>19 characteristics of the waste stream in the</p> <p>20 application. Correct?</p> <p>21 A TexCom identified a number of waste streams.</p> <p>22 Yes.</p> <p>23 Q I'm sorry. I couldn't hear.</p> <p>24 A TexCom identifies a number of different waste</p> <p>25 streams they're going to accept.</p>	<p>1 commercial incineration facility to commercial</p> <p>2 injection?</p> <p>3 A No, ma'am.</p> <p>4 Q Okay. Or commercial landfill to commercial</p> <p>5 injection?</p> <p>6 A No.</p> <p>7 Q Okay. For the incineration alternative, I</p> <p>8 think you stated there could be air emissions involved</p> <p>9 if they -- if TexCom pursued incineration.</p> <p>10 A Right.</p> <p>11 Q Did you attempt to analyze -- or did you</p> <p>12 calculate what emissions might occur based on the</p> <p>13 general waste streams that TexCom is proposing to</p> <p>14 accept?</p> <p>15 A No, I did not.</p> <p>16 Q Okay. And you didn't necessarily compare the</p> <p>17 actual cost of TexCom's project to the actual cost of</p> <p>18 any other disposal alternatives to, say, a single</p> <p>19 generator of waste. Correct?</p> <p>20 A No, ma'am.</p> <p>21 MS. COLLINS: Okay. Those are my</p> <p>22 questions. Thank you.</p> <p>23 JUDGE EGAN: For the Executive Director?</p> <p>24 Mr. Williams?</p> <p>25 MR. WILLIAMS: Yes.</p>

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<p style="text-align: right;">Page 270</p> <p>1 CROSS-EXAMINATION</p> <p>2 BY MR. WILLIAMS:</p> <p>3 Q Mr. Casey, my name is John Williams.</p> <p>4 I have seen references in other prefiled</p> <p>5 exhibits and testimony to a rock formation named --</p> <p>6 and I'll spell it for the record, Capital Y-e-g-u-a.</p> <p>7 Are you familiar with that formation?</p> <p>8 A Yes, sir.</p> <p>9 Q How do you pronounce it?</p> <p>10 A Yegua, I believe.</p> <p>11 Q I also --</p> <p>12 A Yegua.</p> <p>13 Q -- heard Yegua.</p> <p>14 A Yegua.</p> <p>15 Q How does that relate to the Cockfield</p> <p>16 formation?</p> <p>17 A I believe it's the same -- it's another name</p> <p>18 for the Cockfield formation.</p> <p>19 Q Okay. So if we see anything in the exhibits</p> <p>20 on file or in testimony to the Yegua formation, we can</p> <p>21 trust that it's referring to the same formation. Is</p> <p>22 that correct?</p> <p>23 A I would believe so. Dr. Bruce Langhus, our</p> <p>24 geologist, would be the best person to ask that to.</p> <p>25 Q I will ask him the same question.</p>	<p style="text-align: right;">Page 272</p> <p>1 that oil field?</p> <p>2 A No, sir. It's for disposal.</p> <p>3 Q For disposal. Are they injecting it under</p> <p>4 pressure?</p> <p>5 A Yes, sir.</p> <p>6 Q Are you aware of any Class II wells</p> <p>7 injecting -- causing any pressures greater than 421</p> <p>8 pounds per square inch?</p> <p>9 A I don't know that off the top of my head.</p> <p>10 No, sir.</p> <p>11 Q Okay. If they did, wouldn't there be danger</p> <p>12 of moving that mud plug in the existing wells that are</p> <p>13 penetrated to that level or below?</p> <p>14 A Yes, sir.</p> <p>15 Q Are you aware of any brine infiltrating into</p> <p>16 the underground sources of drinking water in</p> <p>17 Montgomery County?</p> <p>18 A Well, according to the definition of the</p> <p>19 USDW, the Frio is a USDW. They're actually injecting</p> <p>20 into a water zone that's less than 10,000 TDS.</p> <p>21 Q You said that -- you testified, when Mr. Hill</p> <p>22 was questioning you, that Well No. 410, which is the</p> <p>23 old 315, you would have -- you would have to do a well</p> <p>24 workover report rather than a new completion report.</p> <p>25 Is that correct?</p>
<p style="text-align: right;">Page 271</p> <p>1 You have just fielded a number of</p> <p>2 questions from the Public Interest. In your opinion,</p> <p>3 does the public interest stop at county lines?</p> <p>4 A No, sir. I don't think so.</p> <p>5 Q Does it stop at state lines?</p> <p>6 A No, sir.</p> <p>7 Q Are you aware of any Class II wells in</p> <p>8 Montgomery County?</p> <p>9 A Yes, sir.</p> <p>10 Q How many are you aware of?</p> <p>11 A At least about 20. And I know there's</p> <p>12 significantly more than that, but I know of at least</p> <p>13 20.</p> <p>14 Q Are they all in the Conroe oil field?</p> <p>15 A Most of them are, yes, sir.</p> <p>16 Q And they are injecting brine where? Into</p> <p>17 which formation?</p> <p>18 A They're injecting it into the Frio, which is</p> <p>19 above the Jackson.</p> <p>20 Q Frio above the Jackson. How does that relate</p> <p>21 to the Cockfield?</p> <p>22 A It is almost 2,000 feet above the Cockfield.</p> <p>23 Q 2,000 feet.</p> <p>24 A Thousand feet.</p> <p>25 Q Are they doing it for enhanced recovery from</p>	<p style="text-align: right;">Page 273</p> <p>1 A Yes, sir.</p> <p>2 Q But you would also be expanding the</p> <p>3 perforation zone or readjusting the perforation zone</p> <p>4 from 90 feet to 145. Is that correct?</p> <p>5 A That's correct.</p> <p>6 Q And you would be putting those perforations</p> <p>7 in different levels?</p> <p>8 A Yes, sir.</p> <p>9 Q And you would call that a well workover</p> <p>10 report once you complete that work?</p> <p>11 A I've always called it that. It could also be</p> <p>12 a recompletion report.</p> <p>13 Q Recompletion. How would it differ from a</p> <p>14 completion report?</p> <p>15 A The biggest difference is you don't have all</p> <p>16 the drilling information like you'd have in a</p> <p>17 completion report for a new well.</p> <p>18 Q I see.</p> <p>19 A You know, a new well is going to have your --</p> <p>20 you know, drilling, setting a surface casing, setting</p> <p>21 a long string casing, cementing, all the things that</p> <p>22 have already been done initially. We're just going to</p> <p>23 add perforation.</p> <p>24 Q You use the term "millidarcies." Can you</p> <p>25 define a darcy?</p>

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<p>1 A It's a unit of measure of permeability --</p> <p>2 Q Okay.</p> <p>3 A -- with a very long equation that goes with</p> <p>4 it.</p> <p>5 Q Okay. Is the saltwater in the lower</p> <p>6 Cockfield currently under pressure?</p> <p>7 A It is under pressure compared to what</p> <p>8 hydrostatic pressure should be.</p> <p>9 Q Can you explain that, please?</p> <p>10 A If you were just to take the natural -- you</p> <p>11 know, pressure, just the weight of the water at that</p> <p>12 depth, due to, you know, influxes across the faults in</p> <p>13 various parts of the Conroe field, the water pressure</p> <p>14 in the upper, the middle and the lower are all less</p> <p>15 than what they were originally when the wells -- when</p> <p>16 the formation was drilled -- you know, was, I guess,</p> <p>17 identified.</p> <p>18 Q Okay.</p> <p>19 A All the pressures are less due to production</p> <p>20 in the various parts of the Cockfield.</p> <p>21 Q But if you were to drill a well into the</p> <p>22 lower Cockfield and stand back, I've heard it</p> <p>23 testified to at some point that the brine from the</p> <p>24 lower Cockfield would rise to a higher level than the</p> <p>25 current underground sources of drinking water in</p>	<p>1 Q And you talked about the possibility of</p> <p>2 wastewater treatment as an alternative method, and I</p> <p>3 think you may have admitted, that, yes, that would</p> <p>4 make the -- certain amount of water available for</p> <p>5 surface water rights users. But what about the</p> <p>6 pollutants you pull out of the wastewater once you</p> <p>7 treat it? What happens to that, the wastewater</p> <p>8 treated?</p> <p>9 A You either have to -- you have to dispose of</p> <p>10 it in some manner. Either you go to a landfill with</p> <p>11 it or you put it down a disposal well.</p> <p>12 MR. WILLIAMS: No further questions,</p> <p>13 Your Honor.</p> <p>14 JUDGE EGAN: Thank you. Any redirect?</p> <p>15 MR. RILEY: I do have some redirect, and</p> <p>16 it will require me to put up an easel. Could we have</p> <p>17 a five-minute break so that I can organize --</p> <p>18 JUDGE EGAN: You can go ahead and put up</p> <p>19 an easel.</p> <p>20 (Recess: 4:22 p.m. to 4:28 p.m.)</p> <p>21 (TexCom Exhibit Nos. 64 through 66</p> <p>22 marked)</p> <p>23 JUDGE EGAN: We'll get back on the</p> <p>24 record.</p> <p>25 Mr. Riley, you may proceed.</p>
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<p>1 Montgomery County. Is that correct?</p> <p>2 A That's correct.</p> <p>3 Q Okay. Would it come shooting out of the</p> <p>4 surface?</p> <p>5 A No, sir. It would stop at some point below</p> <p>6 surface.</p> <p>7 Q Okay. If there is an unplugged well into the</p> <p>8 lower Cockfield that's just sitting there without any</p> <p>9 kind of plug whatsoever and the casing is rotting</p> <p>10 away, then wouldn't the brine be coming up to a level</p> <p>11 higher than the current drinking water layers for</p> <p>12 aquifers and leaking into the aquifer?</p> <p>13 A It would still have to overcome the mud</p> <p>14 pressure.</p> <p>15 Q Well, if it were unplugged.</p> <p>16 A No mud, no nothing?</p> <p>17 Q No mud, no nothing, and the casing is rotting</p> <p>18 away.</p> <p>19 A Yes. You would have saltwater --</p> <p>20 Q That would be a wide open conduit into the</p> <p>21 current drinking water aquifers. Is that correct?</p> <p>22 A That's correct.</p> <p>23 Q Is there any evidence that that's happening</p> <p>24 right now?</p> <p>25 A No, sir.</p>	<p>1 MR. RILEY: Thank you very much.</p> <p>2 REDIRECT EXAMINATION</p> <p>3 BY MR. RILEY:</p> <p>4 Q Mr. Casey, I'd like to ask you some questions</p> <p>5 in the areas that you've been cross-examined by other</p> <p>6 counsel, and I think it would be helpful if you can</p> <p>7 find the June 2007 2.5-mile area of review map, TexCom</p> <p>8 Exhibit 56. I think we can work from that a little</p> <p>9 bit. I believe Ms. Stewart asked you some questions</p> <p>10 about this map previously.</p> <p>11 A Yes, sir.</p> <p>12 MR. RILEY: With your permission, may I</p> <p>13 approach the treacherous easel?</p> <p>14 (Laughter)</p> <p>15 JUDGE EGAN: Yes.</p> <p>16 Q (By Mr. Riley) Okay. Let's get some terms</p> <p>17 down first and then work as best we can from those</p> <p>18 definitions. The term that's been used several times</p> <p>19 throughout the day with respect to questions asked of</p> <p>20 you is an "area of review." And I think you've</p> <p>21 explained that the area of review map that is TexCom</p> <p>22 Exhibit 56 is the updated version or the corrected</p> <p>23 version of the area of review map. Am I right so far?</p> <p>24 A That's correct.</p> <p>25 Q Okay. Now, taking your attention away from</p>

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<p style="text-align: right;">Page 278</p> <p>1 the exhibit itself and up to the easel here, let me 2 draw an area of review. And by no means is this 3 intended to be to scale or even roughly accurate at 4 this point, but an area of review is essentially a 5 2.5-mile radius from the various wells proposed by 6 TexCom. Is that correct? 7 A That's correct. 8 Q So it's a circle, but it changes in shape 9 from a perfect circle because of the number of wells 10 and drawing circles around those wells. I think you 11 described it as an oblong. 12 A Yes, sir. 13 Q All right. Pretend with me, if you will, 14 that that's an oblong circle area of review. 15 A Yes, sir. 16 Q And there were questions asked of you about 17 the cone of influence. And I think you had testified 18 that based on your reservoir modeling the cone of 19 influence is a 750-foot radius from the TexCom site. 20 Is that correct? 21 A That is correct. 22 Q And is that a circle or an oblong or -- how 23 is the cone of influence determined based on your 24 reservoir modeling? 25 A The cone of influence is -- since the wells</p>	<p style="text-align: right;">Page 280</p> <p>1 mud plugged well, you look at "Pressure build-up was X 2 and it decays radially from the injection well, and at 3 what point does the pressure drop below the pressure 4 that would cause upward flow?" And that's where the 5 750-foot radius came from. 6 Q Okay. There are a couple portions or parts 7 of your answer, and I'd like to explore them all. 8 Let's start with one that seems to define the cone of 9 influence, which is the pressure required to -- 10 required to be generated to upset a mud plug. Do I 11 remember your -- 12 A That's right. 13 Q -- answer correctly? 14 Now, a mud plug -- I don't mean to be 15 testifying, so I'm going to ask you what a mud plug 16 is. 17 A As far of the cone of influence calculations, 18 you have to assume, you know, "If there was an 19 abandoned well" -- "unplugged, abandoned well that was 20 left with just drilling mud in it, at what pressure 21 would you cause the waste fluid to migrate up through 22 the mud up the wellbore?" You know, "At what point do 23 you start the mud in the well moving upward?" 24 Q Okay. So it's not necessarily waste would go 25 up the wellbore, but the mud in the wellbore would</p>
<p style="text-align: right;">Page 279</p> <p>1 are located so close together, we basically treat it 2 as one injection site. And since we only have one 3 existing well right now, we center the injection on 4 Well 310 -- or 315, and the pressure build-up is based 5 on a radius around that well. 6 Now, you could take that same radius and 7 put it on any of the four wells if they were the only 8 well operating for the full time. 9 Q Right. So is it -- am I understanding you 10 correctly, then, you assumed a maximum allowable 11 volume to go into one well? 12 A Yes, sir. 13 Q All right. And that's one of the assumptions 14 made in your reservoir modeling, that all of the 15 permitted volume that TexCom is seeking in this permit 16 application -- or in these permit applications would 17 go into a single well. 18 A That's correct. 19 Q And that is a starting point, so to speak, or 20 at least one of the parameters that would be 21 considered in the cone of influence. 22 A Right. That gives you your pressure build-up 23 that you start -- that you use to look at, "Okay. 24 What point" -- you know, based on your calculation of 25 the pressure required to initiate upward movement in a</p>	<p style="text-align: right;">Page 281</p> <p>1 move based on a certain pressure calculation? 2 A That's correct. 3 Q Now, there were some questions asked, and I 4 don't recall who asked them, but I do recall them 5 being asked about open wellbores. In other words, 6 wellbores without any mud. Would you expect that to 7 even be a possibility, that someone would drill a well 8 and use no drilling mud or anything that would 9 accompany the drilling activity? 10 A No. No. You'd have to use drilling mud to 11 drill. 12 Q Could you explain why that would be? 13 A If you don't use drilling mud, your hole 14 would just collapse in on you as you're drilling. The 15 mud provides stability to the borehole. As you're 16 drilling, you circulate, you know, down the drill pipe 17 and up the outside of the drill pipe and it creates a 18 mud cake along the wellbore that helps maintain 19 borehole stability while you're drilling until the 20 point you can go in and run casing. 21 Q Okay. I think we've all probably dug a hole 22 at one time in our lives where you try to dig a hole 23 and it keeps filling in on you as you -- 24 A Exactly. 25 Q Is that what you're describing at --</p>

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<p style="text-align: right;">Page 282</p> <p>1 obviously, at much greater depths and much different 2 types of material, but is that what you're describing? 3 A Yes, sir. 4 Q Okay. So the mud that's used in drilling 5 serves a number of purposes, as I understand it, 6 including keeping the wellbore intact so that you're 7 actually drilling the well. Is that -- 8 A Yes, sir. 9 Q Okay. Now, at some point of your 10 cross-examination, you testified about the weight of 11 the mud -- the drilling mud and assumptions made 12 regarding weight of the drilling mud. 13 A Yes, sir. 14 Q How do you come to a conclusion or how did 15 you come to the conclusion in this case regarding the 16 weight of the drilling mud? 17 A We reviewed the well records that were 18 available to see what mud weights were used in 19 drilling and basically looked for the lowest mud 20 weight we could find in the area, and that was a 21 9-pound-per-gallon mud used in one of the wells. 22 Q And is it just like it sounds, Mr. Casey, 23 that that's how much the mud weighs per gallon? 24 A Exactly. That's how mud -- mud and most -- a 25 lot of oil field fluids are measured in pounds per</p>	<p style="text-align: right;">Page 284</p> <p>1 your assumptions that went into the reservoir 2 modeling. 3 A Yes, sir. 4 Q And I'm going to draw, badly, a wellbore up 5 here. It's separate from there. That is crudely 6 depicted as a pipe running -- let's imagine that this 7 is at the surface. I'll even label it "Surface." And 8 then this is the -- let's call this "Completed Depth." 9 Is that a fair -- 10 A "Total Depth." 11 Q "Total Depth." All right. 12 Now, have I drawn enough information -- 13 I assume that as you're drilling a well as you 14 described, you would use drilling mud in the 15 construction of the well. 16 A That's right. 17 Q All right. So we've talked about -- in this 18 case, you've used 9 pounds per gallon. 19 Could you take me from 9 pounds per 20 gallon, on a crudely drawn well, how you would 21 calculate this pressure that you're concerned with as 22 it pertains to the cone of influence? 23 (Brief Pause) 24 Q (By Mr. Riley) If you're referring to 25 something, when you find it, could you --</p>
<p style="text-align: right;">Page 283</p> <p>1 gallon, and mud, you know, it's usually -- usually 2 drill, in this area, anywhere from a 9 to, you know, a 3 9.6-pound-per-gallon mud, gives you enough fluid 4 pressure on the formation to keep the formation from 5 flowing in if it were to be normally pressured. 6 Q Okay. So the mud would be somewhat specific 7 to a particular field that one was drilling? 8 A Yes. Most -- a lot of fields -- it changes 9 depending on depth. The deeper you go, usually the 10 heavier mud you need to keep from having higher 11 pressure formation from coming into the well while 12 you're drilling it. 13 Q And I thought you said you reviewed some 14 records and found some various weights for mud used in 15 the Conroe field. Is that correct? 16 A Yes, sir. 17 Q And in your review, you found 9 pounds per 18 gallon to be a low mud weight. 19 A Yes, sir. 20 Q And why is low mud weight more conservative 21 than a high mud weight? 22 A Because it takes less -- it creates less 23 pressure on the formation. So it takes a lower -- it 24 provides a lower pressure to initiate upward flow. 25 Q Okay. So that's one level of conservatism in</p>	<p style="text-align: right;">Page 285</p> <p>1 A Yes. 2 Q -- direct us all -- 3 A If you go to the actual application where the 4 calculation is done, just so we can all look at the 5 terms together. 6 Q Thank you. 7 A If you go to TexCom Exhibit 20, Page 164. 8 JUDGE WALSTON: What volume is that? 9 A This is Volume 10. 10 JUDGE WALSTON: What page did you say? 11 JUDGE EGAN: Page 164. 12 A 164. 13 MR. WILLIAMS: Excuse me. Can you give 14 us a section number? 15 A Let's see. It is Section VII of the 16 application, VII.F. It's Page VII-16. 17 Q (By Mr. Riley) I think my question was 18 whether it would -- again, I'm drawing something here 19 so we can have some conceptualization of what you're 20 describing, but please describe for us, if you would, 21 how you calculate pressure, which I believe is 421 22 psi. 23 A Right. Basically what you do is you take the 24 depth to the injection reservoir, which is 6,045 feet 25 to the top of the lower Cockfield.</p>

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<p>1 Q Okay. I'm just going to write "6,040 feet 2 depth to the reservoir." 3 A 6,045. 4 Q It's 6,045. Right? 5 A Right. 6 Q Is that calculated from the surface? 7 A Yes. 8 Q 6,045 feet down is the top of the reservoir. 9 By "reservoir" is there a stratum that we've been 10 talking about today that -- 11 A Yes. 12 Q -- coincides with six thousand -- 13 A That's the top of the lower Cockfield. 14 Q Top of the lower Cockfield. 15 A And then, to be conservative, we assume a 16 50-foot fallback of the mud column that -- over time, 17 the well sat there and the well's lost 50 feet of 18 fluid somewhere. It's dissipated in the formation, or 19 just, for whatever reason, we've lost 50 foot. So we 20 would subtract 50 feet out of that 6,045. 21 Q Okay. Now -- and by "fluid," we're talking 22 about the mud? 23 A The mud. 24 Q Okay. 25 A The mud in the --</p>	<p>1 actually calculated two different ways to figure out 2 which one is more conservative. 3 Q Could you explain the alternate way or -- let 4 me stop before I go on to an alternate way. 5 So if I understand you correctly, then, 6 one calculation is the downward pressure of the mud 7 column as you've described it calculated just a moment 8 ago. 9 A Right. 10 Q Okay. 11 A And you have to -- in addition to just the 12 weight of the mud itself, the pressure it exerts, you 13 also have to include the -- take into account the gel 14 strength of the mud. The way drilling mud is 15 designed, as it sits, it gels up kind of -- you know, 16 semihardens, and so it takes additional pressure to 17 start it flowing again. And the accepted number to 18 use is 20 pounds per -- 20 pounds per hundred square 19 feet of gel strength for a mud plugged well -- a mud 20 plugged hole. 21 Q All right. And when you say "the accepted 22 number," by whom is that accepted in your experience? 23 A That's TCEQ. 24 Q Any other calculation or component of the 25 calculation that goes into this method for determining</p>
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<p>1 Q What I'm going to do -- without using 2 numbers, because it would be very busy quickly, you -- 3 well, let's leave it at that. The testimony is you 4 take off 50 feet. 5 A Take off 50 feet. Then you multiply that 6 number by the density of the mud, which is 9 pounds 7 per gallon. And you multiply that number by .052, 8 which is a conversion factor, to get gallons per foot 9 inch cube -- inch squared, and that will give you your 10 static pressure due to the column of mud -- 11 Q Okay. And that's -- 12 A -- at the top of the reservoir. 13 Q That's a pressure that at the top of the 14 reservoir -- again, you're not assuming any wells to 15 be completed there or perforated there. You're just 16 calculating a pressure, that if one -- if a well were 17 there and the mud were as you described it, that 18 density and using the factor, that's the pressure that 19 leads to the 421 psi or is the 421 psi. 20 A That should calculate to -- well, that will 21 give you your static fluid mud pressure. 22 Q Okay. 23 A That's the amount of pressure it would take 24 to cause -- you'd have to overcome that pressure 25 calculated to start the upward flow. Another -- we</p>	<p>1 the pressure that will have to be exerted upward in 2 that well in order to displace the mud? 3 A Well, you use the gel strength of the mud and 4 you actually calculate a pressure due to that gel 5 strength. That calculation is shown on the bottom of 6 Page 165 of TexCom Exhibit 20, and it shows that the 7 pressure you have to overcome due to gel strength of 8 the mud is 57 psi. So you would add 57 psi onto the 9 weight of the mud, the pressure that the mud extends 10 on the reservoir, and then from -- then from that 11 number, you would subtract the original formation 12 pressure, which is 2,442. So your pressure due to the 13 mud calculates out to 2,806 psi. You add 57 psi to 14 that to account for the gel strength of the mud. Then 15 you subtract off the original formation pressure of 16 2,442 psi, and that will give you 421 psi pressure 17 that is required to initiate flow upward. 18 Q Okay. I'm not sure I understood all of what 19 you said, but I do think the calculation is reflected 20 in the application, and, hopefully, the Judges 21 understand. 22 You said there was an alternate method 23 that you also looked at to determine whether the 24 method you just described was conservative. 25 A Yes. We compared the maximum allowable</p>

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<p>1 pressure increase calculated, the 421, to a maximum 2 build-up pressure based on a mud weight gradient plus 3 gel strength. The mud weight gradient plus the gel 4 strength gives you 444 psi. 5 Q Would have given you a higher -- 6 A A higher pressure than what it would take. 7 So we chose the lower pressure to be conservative. 8 Q Okay. We'll probably hear the word 9 "conservative" several times throughout this 10 discussion, but I'm trying to explain to the ALJs -- 11 or have you explain to the ALJs, when you said 12 conservative earlier or very conservative or extremely 13 conservative, whichever words you chose, what you were 14 referring to in your calculations. 15 A Yes, sir. 16 Q So if I understand, then, based on my -- 17 again, my conceptualization here or crude drawing, 18 that if I had a well completed down to the depth of 19 the reservoir, 6,045 feet or the top of the lower 20 Cockfield, then what you've calculated is a pressure 21 that would cause, at least in theory, the mud in that 22 well to displace. 23 A Correct. 24 Q All right. So by now -- by this point in our 25 discussion, we're talking in theoretical terms. When</p>	<p>1 A Correct. 2 Q Now, there was some questions about wells, 3 where there isn't information and other things of that 4 nature, and I'll get to that at some part of the 5 redirect, but, for now, I'd like to talk about why, 6 then, we would concern ourselves, if you agree, 7 primarily, with wells within the cone of influence. 8 What is the reason? 9 A Well, the reason why you concern yourself 10 with wells in the cone of influence is, it's in that 11 area that you have sufficient pressure to cause upward 12 flow in an abandoned wellbore or unplugged wellbore. 13 In our application, we -- you know, we come back to 14 the statement of "There's no wells drilled into the 15 lower Cockfield." So there are no potential problem 16 wells because there's not -- you know, we're protected 17 by a layer of shale and the middle Cockfield and 18 another layer of shale before you get to the upper 19 Cockfield, which -- you know, 8- or 900 feet of zone 20 between where we're injecting into and where these 21 wells are physically located. 22 Q So one layer of conservatism, then, is -- in 23 this discussion we've been having about the cone of 24 influence is that there is an artificial penetration 25 that could even go down to 6,045 feet that you would</p>
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<p>1 you calculate that pressure, is that pressure exerted 2 radially up from a proposed injection well? In other 3 words, is it a circle that I can draw -- 4 A The pressure build-up -- 5 Q The pressure build-up. 6 A -- is a circle that's -- 7 Q Let's pretend that's an underground injection 8 control well. And then the cone of influence we've 9 been discussing is a pressure gradient build-up of 421 10 psi exerted radially. So that would suggest that you 11 could draw a circle. And that would be how you look 12 at the cone of influence. 13 A Correct. 14 Q Now, is the cone of influence always within 15 the 2.5-mile area that is described in TCEQ rules? 16 A If you calculate your cone of influence and 17 it is larger than 2-1/2 miles, you have to do a larger 18 area of review. 19 Q All right. In this case, did you have to do 20 a larger area of review or was it within the 2-1/2 21 miles? 22 A It's within the 2-1/2 miles. 23 Q I think you testified on cross-examination 24 and in your direct testimony that you calculated the 25 cone of influence to extend radially out 750 feet.</p>	<p>1 have to displace or that you would displace mud if you 2 reached the 421 psi pressure. Is that correct? 3 A Can you say -- 4 Q That's a long question. Let me try it again. 5 A I was going to say "Say that again." 6 Q In our cone of influence -- well, the 7 discussion we've just been having is theoretical. In 8 other words, there's no wellbore that goes down two 9 thousand -- excuse me, 6,045 feet that is of specific 10 concern. Is that -- 11 A Correct. 12 Q -- your understanding? 13 So within the cone of influence, then, 14 we don't know of any well that would go down to the 15 depth of the lower Cockfield and be available to have 16 its mud displaced based on the 421 psi. 17 A Correct. 18 Q There are a number of wells, though, that are 19 in the cone of influence. If you look on a -- on the 20 surface and take that 750-foot radius, you would find 21 some wells that had been previously drilled. Correct? 22 A Correct. 23 Q And how many wells did you come up with that 24 you would identify on the surface that are within the 25 area of review -- excuse me, the cone of influence?</p>

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<p>1 A There's six wells.</p> <p>2 Q The six wells, let's try to identify them</p> <p>3 first by the numbers or the numbering system used in</p> <p>4 the application. And let's start with the lowest</p> <p>5 numbered one and just list them for me.</p> <p>6 A C-4, C-7, C-8, C-12, C-425, and C-428.</p> <p>7 Q Did I get the list correct?</p> <p>8 A Yes, sir.</p> <p>9 Q All right. Now, I'm afraid my diagram is</p> <p>10 going to get a little messy, but are there Railroad</p> <p>11 Commission designations -- let's start differently.</p> <p>12 How did you determine the location of</p> <p>13 these six wells?</p> <p>14 A They're from Railroad Commission maps.</p> <p>15 Q Okay. So the Railroad Commission is the</p> <p>16 source of the location of the six wells that we've</p> <p>17 listed up here on this easel?</p> <p>18 A Correct.</p> <p>19 Q Over the listing of the wells, I've written</p> <p>20 the letters "RRC" for Railroad Commission. Are we on</p> <p>21 the same wavelength so far?</p> <p>22 A Yes, sir.</p> <p>23 Q Does the Railroad Commission assign its own</p> <p>24 identifier or an identifier to wells that it provides</p> <p>25 on its maps?</p>	<p>1 were to draw a 750-foot circle around the wells, I</p> <p>2 would have a complete list of wells in the cone of</p> <p>3 influence?</p> <p>4 A Yes sir.</p> <p>5 Q Now, I think you said that you have found</p> <p>6 additional records since the application was submitted</p> <p>7 related to these six wells. Is that fair to say?</p> <p>8 A Yes, sir.</p> <p>9 Q Okay. Which wells, specifically, did you</p> <p>10 find additional information or do you have additional</p> <p>11 information for?</p> <p>12 A (No response)</p> <p>13 Q Well, let me go at it differently, because I</p> <p>14 don't mean for it to be a memory test.</p> <p>15 A I was going to say, I can't remember exactly</p> <p>16 which wells we had before, which ones we haven't</p> <p>17 been -- I've looked at them all so many times, they</p> <p>18 all run together.</p> <p>19 Q I think it might be helpful to get a Railroad</p> <p>20 Commission identifier associated with the C lettering</p> <p>21 numbering system. So if you know, is C-4 --</p> <p>22 A Okay. We've obtained data for C-7, C-12. I</p> <p>23 believe the last one is 428.</p> <p>24 Q When you say "obtained data," this is data</p> <p>25 that was not otherwise obtained or submitted with the</p>
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<p>1 A There's identifiers put on the maps. Older</p> <p>2 wells that don't have an API number associated with</p> <p>3 them will usually have whatever the operator --</p> <p>4 whatever well number the operator used for it, that</p> <p>5 would typically be the number on the map, a Railroad</p> <p>6 Commission map. And then wells that have an API</p> <p>7 number will have the operator's well number plus an</p> <p>8 API number on the map.</p> <p>9 Q So there's a mixed system -- is that fair to</p> <p>10 say -- in the Railroad Commission records as to how</p> <p>11 the wells are identified?</p> <p>12 A Correct.</p> <p>13 Q Let's deviate for just one second from this</p> <p>14 line. In looking at TexCom Exhibit 56, I thought I</p> <p>15 identified or I thought I saw a well that is listed as</p> <p>16 C-427.</p> <p>17 A Yes.</p> <p>18 Q And am I correct that that appears as a spot</p> <p>19 on the map that that was a permitted well that was</p> <p>20 never drilled?</p> <p>21 A That's correct.</p> <p>22 Q Okay. Is that why you do not list it in the</p> <p>23 six wells that are existing?</p> <p>24 A Yes.</p> <p>25 Q Other than that spot on the map, then, if I</p>	<p>1 application?</p> <p>2 A That's correct.</p> <p>3 Q Okay. This is the additional data that's not</p> <p>4 found in the application that's in evidence in this</p> <p>5 case. Correct?</p> <p>6 A Correct.</p> <p>7 Q Let me provide you with what I believe has</p> <p>8 been marked Exhibit 64. The parties have received</p> <p>9 this previously as part of the disclosure, but we have</p> <p>10 additional copies.</p> <p>11 Have you had a chance to look at what's</p> <p>12 been marked as TexCom Exhibit 64?</p> <p>13 A Yes, sir.</p> <p>14 Q All right. And it's -- am I correct that it</p> <p>15 relates to the well we've designated C-7?</p> <p>16 A That's correct.</p> <p>17 Q And the Railroad Commission designation for</p> <p>18 that well or identifier number for that well is 28.</p> <p>19 Is that correct?</p> <p>20 A That's correct.</p> <p>21 Q Are you able to look at that record and</p> <p>22 determine to what total depth that well was drilled?</p> <p>23 A Yes, sir.</p> <p>24 Q And what is that depth, please?</p> <p>25 A Five thousand one eighty -- it's either 185</p>

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<p style="text-align: right;">Page 298</p> <p>1 or 183. It's not the best copy. 2 Q Okay. The deepest depth you would read from 3 that? 4 A 5,183. 5 Q And based on your knowledge of these records, 6 how would you characterize that particular set of 7 records regarding that well, which is the same as -- 8 given -- oh. I'm sorry. Let's -- different question. 9 In what year was the well drilled? 10 A Drilled in 1934. 11 Q And have you reviewed well records from that 12 era prior to today? 13 A Yes, sir. 14 Q And in terms of quality of this particular 15 well record, do you have an opinion as to whether it's 16 a good quality record, bad quality record? 17 A No. It's good quality. It's got drilling 18 information, formation records. 19 Q And so then would you believe that the 20 recorded depth that you find in that 1934 record is 21 reliable at 5,183 feet? 22 A Yes, it is. 23 Q And what formation would 5,183 feet 24 correspond with? 25 A That would be the upper Cockfield.</p>	<p style="text-align: right;">Page 300</p> <p>1 drilled? 2 A 1932. 3 Q And what depth does 5,190 feet -- 95 feet, 4 excuse me, correspond to in the formation we've been 5 discussing? 6 A That would be the upper Cockfield. 7 Q And finally -- well, finally, for this 8 portion of the program, would you take a look at 9 what's been previously marked TexCom Exhibit 66? 10 A Okay. 11 Q Am I correct that TexCom Exhibit 66 refers to 12 a well identified by the Railroad Commission as 29? 13 A That's correct. 14 Q Based upon your review of those records, are 15 you able to determine how deep that well was drilled? 16 A Yes, sir. 5,196 feet -- well, 5,198 feet. 17 It's smeared on one page. 18 Q And does that depth correspond with a 19 formation that we've been discussing this afternoon? 20 A Yes. That's the upper Cockfield. 21 MR. RILEY: At this time, I'd offer into 22 the record and into evidence TexCom Exhibits 65 and 23 66. 24 JUDGE EGAN: Any objections to TexCom 25 Exhibits 65 and 66?</p>
<p style="text-align: right;">Page 299</p> <p>1 Q Let's move, if we can, to what has been 2 previously -- I'm sorry. 3 MR. RILEY: At this point, I'd offer 4 into evidence TexCom Exhibit 64. 5 JUDGE EGAN: Any objection? 6 (No verbal response) 7 JUDGE EGAN: TexCom Exhibit 64 is 8 admitted. 9 (TexCom Exhibit No. 64 admitted) 10 Q (By Mr. Riley) Okay. And I'd ask you to 11 look at -- hopefully you have a copy of what's been 12 previously marked as TexCom Exhibit 65. 13 A Okay. 14 Q Am I correct, Mr. Casey, that this set of 15 documents that's been previously marked as TexCom 16 Exhibit 65 relates to TexCom Application Identifier 17 C-12? 18 A That's correct. 19 Q And is there a Railroad Commission number 20 that's associated with C-12? 21 A Well 27. 22 Q Are you able to determine from those records 23 what the total depth of the drilling was for C-12? 24 A Yes, sir. It was 5,195 feet. 25 Q And if you know, in what year was that well</p>	<p style="text-align: right;">Page 301</p> <p>1 (No verbal response) 2 JUDGE EGAN: They're admitted. 3 (TexCom Exhibit Nos. 65 and 66 admitted) 4 Q (By Mr. Riley) The other wells that have not 5 been discussed at this point that are in the list of 6 six, were there well records identified as part of the 7 application of TexCom? 8 A Yes, there was. 9 Q And working from the bottom this time, can 10 you identify or can you find in the TexCom exhibits 11 the well records for C-425? And if you find them, 12 could you tell us what you're looking at and what 13 volume? 14 A It's Volume 7, TexCom Exhibit 10, Page 486. 15 Q We're on C-425. Is that correct? 16 A Yes, sir. 17 Q And have you had a chance to look at that 18 well record and give me a Railroad Commission 19 identifier for it? 20 A It's Well No. 1. It's API No. 339-30650. 21 Q I'm going to go with Railroad Commission 22 No. 1 for purposes of my diagram. 23 Is there a record of the total depth for 24 that particular well? 25 A Yes. It is 3,800 feet.</p>

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<p>1 Q And, if you know, what formation below the</p> <p>2 surface would 3,800 feet correspond to?</p> <p>3 A Off the top of my head, I'm not sure.</p> <p>4 Q Okay. But it's not --</p> <p>5 A It's --</p> <p>6 Q Certainly not down into the depth of the</p> <p>7 upper Cockfield. Is that correct?</p> <p>8 A Correct. It's likely the Frio, but I don't</p> <p>9 have the cross-section in front of me right now.</p> <p>10 Q That's fine.</p> <p>11 A It's well above the upper Cockfield.</p> <p>12 Q But the depth indicated in the well record is</p> <p>13 3,800 feet. Correct?</p> <p>14 A That's correct.</p> <p>15 Q Are you able to find well records regarding</p> <p>16 C-8?</p> <p>17 A It's in Volume 4, TexCom Exhibit 8, Page 36.</p> <p>18 Q Is there a Railroad Commission identifier for</p> <p>19 that well?</p> <p>20 A It's Well 809.</p> <p>21 Q Is there a total depth recorded in the well</p> <p>22 records for C-8?</p> <p>23 A Yes. 5,231.</p> <p>24 Q Does that depth below the well location</p> <p>25 correspond to any stratum that we've been describing?</p>	<p>1 (Brief Pause)</p> <p>2 A It's Well No. 9.</p> <p>3 Q (By Mr. Riley) Well No. 9?</p> <p>4 A Yes, sir.</p> <p>5 Q And is the record uncertain in the</p> <p>6 application as far as you can tell because it refers</p> <p>7 to a different survey on the map. In other words, the</p> <p>8 proposed facility is located in the T.C. Howell</p> <p>9 survey. Is that correct?</p> <p>10 A Yes, sir.</p> <p>11 Q And the record you're referring to that</p> <p>12 expresses some uncertainty about its relevance to Well</p> <p>13 Location C-4 is that it refers to another survey?</p> <p>14 A Yes. It says the Lemuel Smith A-502 survey.</p> <p>15 And in the records, it's originally</p> <p>16 completed in '67 and it was plugged in '89, and they</p> <p>17 gave it a well number of 66-D at that time.</p> <p>18 Q So is it fair to put up here another well</p> <p>19 number of 66-D?</p> <p>20 A Yes.</p> <p>21 Q The long and short of it is that the record</p> <p>22 that is in the application that pertains to Well C-4</p> <p>23 identified on the TexCom map is uncertain because it</p> <p>24 appears to be on a different survey.</p> <p>25 A That's correct.</p>
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<p>1 A It would be the upper Cockfield.</p> <p>2 Q Now we come to C-4, which Mr. Forsberg asked</p> <p>3 a number of questions about, and I think your</p> <p>4 testimony was, on cross-examination, that you were</p> <p>5 uncertain of the well records that we had in the</p> <p>6 application and the applicability to what's been</p> <p>7 identified with C-4.</p> <p>8 A That's correct.</p> <p>9 Q Did you find those well records in the</p> <p>10 application?</p> <p>11 A Yes.</p> <p>12 Q Do you have those well records in the</p> <p>13 application?</p> <p>14 A Yes. It's in Volume 4 also, TexCom Exhibit</p> <p>15 8, Page 20.</p> <p>16 Q Okay. You mentioned earlier that it seemed</p> <p>17 as though those well records did not correspond to the</p> <p>18 location of C-4 as depicted on the TexCom exhibits.</p> <p>19 Is that correct?</p> <p>20 A That's correct.</p> <p>21 Q Is there a Railroad Commission identifier for</p> <p>22 the C-4 well that at least I can write up here on the</p> <p>23 board?</p> <p>24 A Well, it has a 6, and it's crossed out, and a</p> <p>25 9 next to it. So -- let's see.</p>	<p>1 Q And the source of both the record related to</p> <p>2 66-D and the location of the C-4 well in the TexCom</p> <p>3 exhibit, the source of both sets of information are</p> <p>4 from the Railroad Commission of the State of Texas.</p> <p>5 Correct?</p> <p>6 A That's correct.</p> <p>7 Q Now, Mr. Forsberg asked you a number of</p> <p>8 questions about your level of certainty regarding Well</p> <p>9 C-4 and its drilled to depth or total depth. Is that</p> <p>10 correct?</p> <p>11 A That's correct.</p> <p>12 Q Right. And Mr. Forsberg suggested that</p> <p>13 because there were no well records, that it would be</p> <p>14 possible for that well to have been drilled into the</p> <p>15 lower Cockfield. Is that correct?</p> <p>16 A That's correct.</p> <p>17 Q Is it your opinion that it is probable that</p> <p>18 the well was drilled into the lower Cockfield?</p> <p>19 A No, sir. I do not believe it was drilled</p> <p>20 into the lower Cockfield.</p> <p>21 Q And could you explain that further,</p> <p>22 Mr. Casey?</p> <p>23 A Well, basically, the wells in this area north</p> <p>24 of the fault are typically completed in the upper</p> <p>25 Cockfield. If you look at the well records, they're</p>

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<p>1 all, you know, just into the five thousand, fifty-one, 2 fifty-two hundred feet, and it's consistent across the 3 area. There's -- you know, there are a few deep 4 tests, but they were plugged back up into the upper 5 Cockfield. 6 Q You say "consistent across the area." Are 7 you speaking broader area than the area -- or the cone 8 of influence that we've -- I've tried to depict on the 9 board up here? 10 A Yes. 11 Q So there are no deep wells that you know of 12 that are in the cone of influence area? 13 A No. There are no deep wells in the cone of 14 influence. 15 Q So your statement is more in general about 16 the Conroe field and exploratory wells that have been 17 drilled to deeper depths? 18 A Correct. 19 Q Have you worked in the Conroe field 20 previously? Is there any body of knowledge that you 21 possess outside of this application regarding the 22 Conroe field? 23 A No, sir. 24 Q So you've done research in the -- for the 25 Conroe field as it pertains to this TexCom</p>	<p>1 cross-communication of fluids. Typically, you're 2 going to get, you know, saltwater from the deeper zone 3 that's nonproductive that would water out your 4 production further uphole. 5 Q How does one complete back to a higher zone 6 or shallower zone when they're engaged in oil 7 exploration -- oil and gas exploration? 8 A You set mechanical and cement plugs in the 9 casing or in the wellbore. 10 Q So it's not just drilling mud; it would be 11 some other mechanism for completing the well back? 12 A That's correct. 13 Q And is there, in your opinion, a concern -- 14 if there were a well drilled deep and then completed 15 back, is there a concern for the deep portion of the 16 well as it pertains to this application and 17 transmissivity to a higher zone? 18 A No. 19 Q And could you explain further why you feel 20 that way? 21 A Well, one, the well would be cased across the 22 zone and be plugged back, you know, below the -- you'd 23 have either a cement or combination of cement and 24 mechanical plugs set in the casing at the base or 25 lower part of the upper Cockfield so that you can</p>
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<p>1 application. 2 A That's correct. 3 Q Now, other than the Conroe field, have you 4 worked in the oil and gas industry -- and some of your 5 answers pertaining to how wells are handled when 6 there's no production identifier -- let me try a 7 better question. 8 Do you have knowledge of the petroleum 9 industry or oil and gas industry as to what happens 10 when a well is drilled to a deeper depth and no 11 production is identified? 12 A Yes, sir, I do. 13 Q Okay. What is your basis for the knowledge? 14 A Well, it's from having worked for a couple of 15 oil companies and assisted in some drilling 16 activities. 17 Q And when a well is drilled to a deeper depth, 18 even accepting that hypothetical possibility, what 19 would be expected or what have you experienced as to 20 how that well is completed, if it's complete? 21 A Well, if you drill to a deeper zone and it's 22 shown to be nonproductive, normal course of action is 23 to plug the well back to a productive zone to start 24 producing some oil or gas. You wouldn't leave the 25 well open to the lower zone because you have</p>	<p>1 prevent any fluids from migrating from below. 2 Q Other than concerns about fluids migrating, 3 is there an economic reason that someone who is 4 engaged in oil and gas exploration would not leave a 5 wellbore open to a lower nonproductive zone? 6 A If you left it open to a lower zone, you 7 would most likely produce saltwater instead of oil, 8 because you'd get water influx from the lower zone. 9 Q So aside from concerns about transmissivity 10 that may or may not be relevant in the oil and gas 11 industry, there's an economic reason for why that 12 would occur? 13 A That's correct. 14 Q As I understood your testimony, though, 15 there's still an effort to identify additional well 16 records regarding C-4. 17 A That is correct. 18 Q Do you know the distance from the C-4 well to 19 the TexCom proposed UIC wells? 20 A It's 550 feet. 21 Q In which direction? If you know. 22 A C-4 is located north of Well 4, which, in 23 reality, with injection -- if injection takes place in 24 Well 315, you're an additional thousand feet away from 25 C-4.</p>

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<p>1 Q So 315, the existing well, is 1,550 feet 2 away? 3 A Roughly 1,500 feet away from C-4, which would 4 put it outside the cone of influence for Well 315. 5 Q More than 1,500 feet. Is that correct? 6 A Without measuring it, I'd -- approximately 7 1,500 feet. 8 Q Is it possible, Mr. Casey, in your 9 experience, that Well 4 or what we've identified as 10 C-4 was not drilled in the T.C Howell survey and 11 indeed is in the Lemuel Smith survey. 12 A That is possible. Yes, sir. 13 Q And to clarify that, would you expect the 14 Railroad Commission would be the best place to make 15 that clarification? 16 A That's where you have to start, is in their 17 records to see if they can locate a well at that 18 location, or, potentially, they have plotted the well 19 in the wrong location on their own mapping. 20 Q Publicly available maps that were used in the 21 TexCom application? 22 A That's correct. 23 JUDGE WALSTON: So just so I'm clear, so 24 it's possible the well is not even there. Is that 25 what you're saying?</p>	<p>1 JUDGE EGAN: That may take 'till 6:00. 2 (Laughter) 3 MR. RILEY: I'm going to ask that this 4 drawing or chart be marked as Applicant's Exhibit 67. 5 (TexCom Exhibit No. 67 marked) 6 MR. RILEY: And while we're all thinking 7 about it, I'd like to offer it into the record as a 8 demonstrative, TexCom Exhibit 67. 9 JUDGE EGAN: Any objection to TexCom 10 Exhibit 67 for demonstrative purposes? 11 (No verbal response) 12 JUDGE EGAN: If not, it is admitted for 13 that purpose. 14 (TexCom Exhibit No. 67 admitted) 15 MR. WILLIAMS: When could we expect to 16 have large-scale copies distributed? 17 (Laughter) 18 MR. LEE: We'll talk about that off the 19 record. 20 JUDGE EGAN: New subject? 21 MR. RILEY: New subject is the stratum 22 below the proposed TexCom site. 23 Q (By Mr. Riley) And, Mr. Casey, I know you're 24 not the geologist or probably the primary person to 25 testify on this subject, but I'd like to cover a few</p>
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<p>1 A That's correct. 2 Q (By Mr. Riley) So, reviewing, there is a 3 possibility that C-4 isn't on the T.C. Howell survey 4 as depicted in the TexCom application. 5 A That is correct. 6 Q Okay. And that if it is indeed there, based 7 on what you believe to be the history of the Conroe 8 field, it is most likely completed in the upper 9 Cockfield. 10 A That's correct. 11 Q Okay. And then, finally, from the existing 12 waste injection well, it would be well outside the 13 cone of influence. 14 A That's correct. 15 MR. RILEY: I have a new subject matter 16 to go on to. I don't know if you want to continue 17 today or break for the evening. 18 JUDGE EGAN: How much longer do you 19 think you'll be? 20 MR. RILEY: This is a long discussion. 21 So I would expect at least an hour, hour and a half. 22 JUDGE WALSTON: We had planned on going 23 until 6:00. 24 MR. RILEY: Okay. I do need to change 25 my paper.</p>	<p>1 aspects with you, and then I expect we'll take this up 2 with Dr. Langhus. 3 I'm going to do a crude drawing of 4 stratum -- just to get some of the layers that we've 5 been discussing today and probably will discuss for 6 the next several days -- that are below the TexCom 7 site. Is that helpful to you to orient what I'm 8 trying to go for? 9 A Yes, sir. 10 Q The first thing I'm going to do is draw 11 parallel lines that I will then label. 12 JUDGE EGAN: Would the witness be better 13 at drawing this? 14 (Laughter) 15 MR. RILEY: I don't know if he wants to 16 risk -- 17 JUDGE EGAN: Given the nature of the 18 easel, maybe he doesn't. 19 MR. WALKER: Your Honors, I wonder if I 20 could object at this point and ask Mr. Riley if he 21 could specify what this testimony is directly in 22 rebuttal to. This looks a little bit like, to me, 23 perhaps new testimony from this witness that's not 24 part of the prefiled testimony. 25 MR. RILEY: I will be happy to. It will</p>

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<p style="text-align: right;">Page 314</p> <p>1 just take me a minute to find the portions of the 2 question. 3 (Brief Pause) 4 MR. RILEY: Mr. Walker, there were 5 questions with Mr. Hill about the underground sources 6 of drinking water and the depth to -- the depth in 7 completion of the TexCom well, questions regarding the 8 perforated interval, which I will demonstrate by at 9 least setting it up in a diagram form, the various 10 layers and where the well would be perforated. There 11 were questions regarding cone of influence which would 12 be related to what I'm about to draw, questions 13 regarding porosity, the width of the injection 14 interval. 15 JUDGE EGAN: To make sure that it's not 16 a direct but rather redirect restrictive, Mr. Hill did 17 ask about injection zone of 315 -- WDW-315 and 18 injection intervals, but I believe the bottom of the 19 Cockfield -- the bottom of the lower Cockfield is the 20 lowest point that you discussed. Is that correct, 21 Mr. Hill? 22 MR. HILL: That's correct, Your Honor. 23 JUDGE EGAN: And so unless the cone of 24 influence went below that, I -- 25 MR. RILEY: There were questions</p>	<p style="text-align: right;">Page 316</p> <p>1 Cockfield is the lower Cockfield. Correct? 2 A That's correct. 3 Q If you know, Mr. Casey, what separates the 4 upper Cockfield from the middle Cockfield? 5 A A layer of shale that's roughly 30 feet in 6 thickness. 7 Q I'm going to draw a thin -- two thin parallel 8 lines or two parallel lines with a thin distance 9 between them to indicate that shale layer. 10 A Okay. 11 Q Does it have its own name or is it just the 12 shale layer? 13 A It's just the shale layer. 14 Q And what separates the middle Cockfield from 15 the lower Cockfield? 16 A Shale layer approximately 40 feet thick. 17 Q And below the lower Cockfield, do you know 18 the stratum below that? 19 A It's Cockfield shale. 20 Q And then, as I understand it, the intention 21 of TexCom is to recomplete -- is that the right 22 word -- 23 A Yes. 24 Q -- the existing well into additional sands in 25 the lower Cockfield.</p>
<p style="text-align: right;">Page 315</p> <p>1 regarding faulting, regarding surface faults. 2 JUDGE EGAN: Within those areas, you may 3 proceed, but restricted to redirect. 4 MR. RILEY: I'll certainly make every 5 attempt. And what I'm trying to draw -- or about to 6 draw is a rough schematic that will show only the rock 7 stratum and nothing more and then ask some questions 8 pertaining to the cross-examination. 9 JUDGE EGAN: All right. 10 MR. RILEY: Thank you. 11 Q (By Mr. Riley) The first stratum I'd like to 12 refer to is the Jackson shale. Is that -- 13 A Okay. 14 Q -- fair enough so far? 15 A Yes, sir. 16 Q Do you know the thickness of the Jackson 17 shale, average thickness? 18 A Not off the top of my head. No, sir. 19 Q Okay. Below the Jackson shale is the upper 20 Cockfield. Is that correct? 21 A That's correct. 22 Q And below the upper Cockfield is the middle 23 Cockfield. 24 A Correct. 25 Q And then, while I'm here, below the middle</p>	<p style="text-align: right;">Page 317</p> <p>1 A That's correct. 2 Q If I drew a crude well down through the 3 various layers that I've depicted on the board into 4 the lower Cockfield, would that be at least a good way 5 to orient us as to what TexCom's intentions are? 6 A Yes, sir. 7 Q I'm going to go off the paper here 8 intentionally because we're not depicting the top or 9 the surface of the ground, just the well that goes 10 through the Jackson into the Cockfield all the way 11 through the lower Cockfield. 12 Okay so far? 13 A The well actually extends down into the 14 Cockfield shale. 15 Q Why is that? 16 A They drill down through the zone to allow 17 enough room for your logging tools to get below the 18 lower Cockfield to log the entire interval. The 19 logging tool is around 90 feet in length. 20 Q So would it be 90 feet down into the 21 Cockfield shale? 22 A I don't remember exact distance. It's over 23 100 feet. 24 Q So I'll draw the well as going down as deep 25 into the Cockfield shale. Fair?</p>

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<p>1 A Yes, sir.</p> <p>2 Q And I believe you did -- you were asked</p> <p>3 questions about the thickness of the lower Cockfield.</p> <p>4 A Correct.</p> <p>5 Q And what is the thickness in feet of the</p> <p>6 lower Cockfield?</p> <p>7 A Well, the top of the lower Cockfield is at</p> <p>8 6,045 feet and the bottom is at 6,390 feet. That's</p> <p>9 345 feet.</p> <p>10 Q And I'm sorry if this is a silly question,</p> <p>11 but is this how the world works. Are those layers all</p> <p>12 uniform in the stratum?</p> <p>13 A No. It's a -- they're not pancake, you know,</p> <p>14 in reality. There's -- you know, they tend to --</p> <p>15 they're laid down during, you know, marine</p> <p>16 transgression of water. So you'll have -- you know,</p> <p>17 they'll undulate to some degree, and they're tilted</p> <p>18 based on the regional dip.</p> <p>19 Q And my reason for asking that question was</p> <p>20 just so that it's clear that I'm not attempting to</p> <p>21 draw what is actually found other than in relative</p> <p>22 terms.</p> <p>23 A It's a reasonable representation.</p> <p>24 Q Now, if I understood your answers on</p> <p>25 cross-examination, that within this 345-foot thickness</p>	<p>1 It's open to travel anywhere in that lower Cockfield</p> <p>2 that there's sand and void space available. So it's</p> <p>3 going to travel -- you know, it will expand out and,</p> <p>4 you know, fill the entire lower Cockfield zone in the</p> <p>5 available space.</p> <p>6 Q So the reason it's conservative, then, if I'm</p> <p>7 following along, is the modeling that you did would</p> <p>8 assume the sands of the lower Cockfield -- or the zone</p> <p>9 of the lower Cockfield to be only 145 feet in</p> <p>10 thickness.</p> <p>11 A That's correct.</p> <p>12 Q That's the way the model looks at it?</p> <p>13 A Correct.</p> <p>14 Q And that's why it's conservative, because</p> <p>15 it's actually some average of 345 feet or thereabouts?</p> <p>16 A That's correct.</p> <p>17 Q And if I'm following along then, the pressure</p> <p>18 gradient from the well, if there is fluid dispersion</p> <p>19 in a broader band or thicker layer, then pressure</p> <p>20 gradient would fall off more quickly.</p> <p>21 A You'd have less pressure build-up.</p> <p>22 Q Okay.</p> <p>23 A Because you have more zone available than has</p> <p>24 been modeled.</p> <p>25 Q And what effect would that have on the cone</p>
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<p>1 called the lower Cockfield, that some amount of the</p> <p>2 well -- the TexCom proposed well will be perforated in</p> <p>3 that zone. Is that right?</p> <p>4 A That's correct.</p> <p>5 Q Again, if I understood you correctly, you</p> <p>6 will perforate a total of 145 noncontinuous feet?</p> <p>7 A Correct.</p> <p>8 Q And 145 noncontinuous feet, just for purposes</p> <p>9 of this diagram, could look -- I think you get the</p> <p>10 idea. I'm looking -- I'm trying to depict</p> <p>11 perforations that are not necessarily 145 continuous</p> <p>12 feet but are throughout the 345-foot interval.</p> <p>13 A That's right.</p> <p>14 Q All right. But if I were to total up</p> <p>15 these -- the perforations in terms of feet, I would</p> <p>16 come up with 145. Correct?</p> <p>17 A Correct.</p> <p>18 Q Now, you testified earlier that you thought</p> <p>19 this had some layer of conservatism to your</p> <p>20 calculations for the cone of influence. Would you</p> <p>21 explain what you're referring to in that line of</p> <p>22 questioning?</p> <p>23 A Well, when your injection fluid leaves the</p> <p>24 wellbore, it's not -- it's not limited to traveling</p> <p>25 horizontally in the 145 feet that are perforated.</p>	<p>1 of influence?</p> <p>2 A The cone of influence would be smaller.</p> <p>3 Q So that's one aspect of your modeling that</p> <p>4 you answered on cross-examination is why you believe</p> <p>5 your model to be conservative?</p> <p>6 A Yes, sir.</p> <p>7 Q And by "conservative," again, we're sticking</p> <p>8 to, at this point, discussion of pressure and the cone</p> <p>9 of influence.</p> <p>10 A Correct.</p> <p>11 Q The other -- one other, I should say. The</p> <p>12 one other aspect that you said the model was</p> <p>13 conservative is that there was -- I think it was</p> <p>14 referred to as a permeability assumed or expected.</p> <p>15 Could you explain that further?</p> <p>16 A Yes. In our model, we assume the</p> <p>17 permeability of 500 millidarcies. We looked at the</p> <p>18 core samples taking -- actual rock samples taken from</p> <p>19 the well that were analyzed in the lab and tested for</p> <p>20 permeability, using, you know, brine and fluids</p> <p>21 similar to what would be injected, and they came --</p> <p>22 you know, had permeabilities anywhere from 500 to 800</p> <p>23 millidarcies.</p> <p>24 Q I'm just going to write that up here, based</p> <p>25 on the lab examinations that were part of the drilling</p>

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<p>1 of the existing well, there were different 2 permeabilities reported by the lab results. Is that 3 correct? 4 A Correct. 5 Q Did you say 500 to 800? 6 A Correct. 7 Q Is that the correct symbol for millidarcy? 8 A Md, yes. 9 Q There was a fall-off test done. What is a 10 fall-off test? 11 A It's basically inject into the well for a 12 period of time and then shut the injection in and 13 monitor the pressure decay over time. And from that, 14 you can determine -- you can see how far out on the 15 reservoir the pressure pulls reached and then also 16 determine permeability. 17 Q And what were the results of that fall-off 18 test? 19 A They got an 80.9 millidarcy perm. 20 Q That's dramatically different, would you 21 agree, from the lab results -- 22 A Yes, sir. 23 Q -- in millidarcies? 24 Would that fall-off test result be 25 relevant to a different perforation?</p>	<p>1 it has an existing well and you have this available 2 information? 3 A Most new permits are for wells that don't 4 exist. You take regional data. You take information 5 from wells in the area and you develop your 6 application. You make assumptions for permeability 7 based on whatever data you can come up with. 8 Q So having available well data and even a 9 fall-off test is different from other applications 10 from new wells that you've worked on? 11 A Correct. 12 Q And is it -- so it's not a requirement that a 13 permit applicant drill a well in order to gain the 14 information that's available in this particular case 15 just to see if they can get a permit. Is that 16 correct? 17 A No. You're not allowed to drill the well 18 without a permit. 19 Q Right. So it's kind of a -- one of those 20 Catch-22 things? 21 A Exactly. 22 Q Now, if there -- if a well is drilled -- and, 23 again, hypothetically, not pertaining to this 24 particular application, if a well is drilled and 25 certain assumptions are made regarding the</p>
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<p>1 A Yes. That's -- the original perforations, 2 they originally permitted 90 -- excuse me -- 3 perforated 90 feet of the wellbore. In that 90 feet, 4 they perforated the highly shale -- the areas where 5 they perforated are very shaley. They have a lot of 6 shale in them. Why they chose to perforate there, I 7 don't know whether it was a mistake or it was just 8 they weren't paying attention, but they didn't 9 perforate the higher sand content zones. And, in 10 fact, they didn't even perforate where they took the 11 core samples from, which, if I was building an 12 injection well, I would -- and I had core samples 13 showing me, you know, 800 millidarcies of perm, I'd 14 perforate there, because it's going to take my water a 15 lot easier. 16 Q Is it your testimony, then, that the 80.9 17 millidarcies pertaining to the 90 feet that was 18 perforated by the prior holder of the permit is not an 19 accurate measure of what's available in the sands in 20 the lower Cockfield? 21 A That's correct. I don't believe it's 22 representative. 23 Q Now, is this matter or this case or this 24 permit application different from other permit 25 applications you may have worked on, in the sense that</p>	<p>1 permeability of the injection zone, is there a 2 regulatory process that one has to follow after a 3 permit is issued and a well is drilled if the stratum 4 doesn't prove up, so to speak, to be consistent with 5 the assumptions made in the modeling? Is there a 6 process that follows in the TCEQ rules? 7 A Yes. 8 Q Could you describe that process? 9 A Basically what you do is you -- after you 10 drill the well and you do your well testing, you 11 compare your well test results to what you had in your 12 permit application, and then any discrepancies between 13 the two, you basically explain it to the Railroad -- 14 the TCEQ, why there's a difference, and then you make 15 modifications to your operational plan, if required. 16 Q We'll make -- take that apart a little bit. 17 Assume for a second that I didn't draw 18 this well on this diagram and there was no well, no 19 existing data. You would have made regional 20 assumptions or assumptions based on knowledge of the 21 region, knowledge of the stratum in plugging those 22 values into your model. 23 A Correct. 24 Q In this case, at least you had lab data from 25 actual core samples regarding the existing well.</p>

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<p style="text-align: right;">Page 326</p> <p>1 Correct?</p> <p>2 A Correct.</p> <p>3 Q As between those two, which would you</p> <p>4 consider to be more accurate?</p> <p>5 A Having actual well data.</p> <p>6 Q And I think we've discussed the fall-off test</p> <p>7 sufficiently, but how come the fall-off test isn't</p> <p>8 what you rely on in your modeling?</p> <p>9 A Mainly because of the fact that they had</p> <p>10 perforated a poor part of the zone. It's not</p> <p>11 representative of the zone in which we will be</p> <p>12 injecting into. You know, they discounted the fact of</p> <p>13 where their core samples were from. The better,</p> <p>14 higher quality sand at the top of the zone, they just</p> <p>15 ignored in their perforating.</p> <p>16 Q So in addition to perforating different areas</p> <p>17 within the injection interval, you are going to</p> <p>18 perforate a larger number of feet -- more feet.</p> <p>19 Correct?</p> <p>20 A Correct.</p> <p>21 Q Will that help in any way? Will that make</p> <p>22 any difference in a fall-off test?</p> <p>23 A Yes. You'll get a more accurate depiction of</p> <p>24 the reservoir once you've opened up the higher perm</p> <p>25 portions of the reservoir to the well.</p>	<p style="text-align: right;">Page 328</p> <p>1 Q And are there other natural mechanisms where</p> <p>2 that could -- how that could occur?</p> <p>3 A It could occur at a fault.</p> <p>4 Q And based on your understanding of the</p> <p>5 geology in this -- well, I'm sorry. Withdraw.</p> <p>6 We've already had a discussion --</p> <p>7 different piece of paper, but a discussion of the</p> <p>8 wells that are within the cone of influence as you've</p> <p>9 calculated just a few minutes ago. Correct?</p> <p>10 A Right.</p> <p>11 Q And based on the available well information,</p> <p>12 all of the wells, with the exception of 66-D or C-4,</p> <p>13 all of those wells are completed into the upper</p> <p>14 Cockfield. Correct?</p> <p>15 A Correct.</p> <p>16 Q So I'm just going to write "5 of 6" on this</p> <p>17 diagram at this time.</p> <p>18 And within the Cockfield formation,</p> <p>19 without distinguishing between upper, middle and</p> <p>20 lower, is there -- are there differences in</p> <p>21 permeability in the -- from the 500 to 800</p> <p>22 millidarcies in the lower Cockfield, say, in the</p> <p>23 middle Cockfield?</p> <p>24 A Yes.</p> <p>25 Q What is the difference in permeability?</p>
<p style="text-align: right;">Page 327</p> <p>1 Q So is a fall-off test required after the</p> <p>2 different perforations are made by TexCom in order to</p> <p>3 verify that 500 millidarcies assumed permeability is a</p> <p>4 conservative value?</p> <p>5 A I believe it will be a requirement. Yes,</p> <p>6 sir.</p> <p>7 Q And if it's not -- if it turns out that the</p> <p>8 original fall-off test was more accurate, did I</p> <p>9 understand you to say that different considerations</p> <p>10 would have to be made and different operating</p> <p>11 parameters would be imposed so that the area or the</p> <p>12 cone of influence was properly considered?</p> <p>13 A Correct.</p> <p>14 Q So if -- even if the 750-foot cone of</p> <p>15 influence that you calculated based on all the</p> <p>16 conservative aspects that you built in, if that turns</p> <p>17 out to be 1,000 feet after the well is completed as</p> <p>18 TexCom proposes, then the TCEQ will look at that</p> <p>19 1,000-foot cone of influence and make a separate</p> <p>20 evaluation. Is that your understanding?</p> <p>21 A Yes.</p> <p>22 Q Now, must there be an artificial penetration</p> <p>23 into the lower Cockfield for fluid to transmit into</p> <p>24 another portion of the Cockfield?</p> <p>25 A Yes.</p>	<p style="text-align: right;">Page 329</p> <p>1 A Some of the data we've reviewed, the middle</p> <p>2 Cockfield permeability is up to around 1 darcy.</p> <p>3 Q And the upper Cockfield, have you reviewed</p> <p>4 data and do you have an opinion as to the permeability</p> <p>5 of the upper?</p> <p>6 A Yeah. There's been some data shown that</p> <p>7 it's, you know, 1-1/2 -- 1 to 1-1/2 darcies.</p> <p>8 Q Is there any significance in terms of</p> <p>9 pressure calculations, then, between the differences</p> <p>10 in the permeability in the lower, middle and upper</p> <p>11 Cockfield?</p> <p>12 A I guess -- I don't quite understand what</p> <p>13 you're asking.</p> <p>14 Q I apologize. What I'm trying to get to and</p> <p>15 may not have gotten there yet, if there were greater</p> <p>16 permeability in the middle and upper Cockfield, would</p> <p>17 that affect a pressure calculation if there was</p> <p>18 connectivity or transmissivity between those zones?</p> <p>19 A Yes. Your pressure build-up would be less</p> <p>20 because your -- you know, the higher perm zone would</p> <p>21 basically take the pressure. They'd dissipate the</p> <p>22 pressure faster.</p> <p>23 Q Okay. So I think I understood. For</p> <p>24 instance -- and this is a total hypothetical here --</p> <p>25 if there were a fracture or some break between -- in</p>

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<p style="text-align: right;">Page 330</p> <p>1 the shale layer between the lower and middle in the 2 area of the well, then the pressure fall-off would be 3 faster. Is that correct? 4 A Correct. 5 Q So your cone of influence would be larger or 6 smaller? 7 A Smaller. 8 Q When you did your modeling, did you assume 9 any connectivity or transmissivity between the lower, 10 middle and upper Cockfield? 11 A We showed in our model the fault 4,400 feet 12 to the south of the well site. We assumed that it 13 was -- the middle Cockfield was in communication with 14 the lower Cockfield and had that as an input in our 15 model so that we would allow the higher permeability 16 area to take more fluid so, in turn, it would allow 17 more fluid to flow that direction towards the fault. 18 Q Okay. I heard a term mentioned in 19 cross-examination about waste edge or words to that 20 effect, plume edge, something like that. 21 A Waste plume. 22 Q Waste plume. All right. And was that part 23 of your evaluation of the TexCom application, how far 24 the waste would travel or is expected to travel? 25 A Yes.</p>	<p style="text-align: right;">Page 332</p> <p>1 Q (By Mr. Riley) 4,000 -- sorry. 2 A 4,400 feet, approximately. 3 JUDGE WALSTON: That was to the south. 4 A To the south. Yes, sir. 5 Q (By Mr. Riley) By making -- if I understood 6 your testimony correctly, you assumed that the 7 distance of the fault -- or that the fault was 8 transmissive in fluid. Is that correct? 9 A That's correct. 10 Q And by making that assumption, what effect, 11 if any, did it have on your calculation of a plume 12 radius? 13 A Well, the plume doesn't reach the fault, so 14 it -- by allowing transmissivity -- transmission of 15 fluids across the fault, it draws the waste, you know, 16 a little bit further south than north, basically what 17 happens. 18 Q Based on your modeling. So, in other words, 19 it would predict -- the model would predict a greater 20 distance for the waste to travel assuming the fault 21 would be transmissive. Is that correct? 22 A Correct. 23 JUDGE EGAN: A good place to stop? 24 MR. RILEY: It is good for me. 25 JUDGE EGAN: All right.</p>
<p style="text-align: right;">Page 331</p> <p>1 Q And back to pressure for just a second. 2 Another different consideration -- correct -- there's 3 a cone of influence, and that's not synonymous with 4 the leading edge of the plume or plume edge or 5 whatever? 6 A Correct. 7 Q And the cone of influence that you calculated 8 was 750 feet radius. Correct? 9 A Correct. 10 Q The plum edge that you calculated based on 11 the assumptions you made in the model was 12 approximately what distance? 13 A I believe it was right around 2,700 feet. On 14 Page 38 of my prefiled testimony, Line 13, the plume 15 radius of 30 years is 2,770 feet. 16 Q Okay. Plume radius at 30 years. Did I hear 17 you correctly? 18 A At 30 years, yes. 19 Q I'm sorry. You said the number -- 20 A 2,770 feet. 21 Q One more item to write up here. You said the 22 distance of the fault that you considered was some -- 23 A 4,400 feet. 24 Q 4,400 feet. 25 (Brief Pause)</p>	<p style="text-align: right;">Page 333</p> <p>1 MR. RILEY: I only have a short while 2 for the morning. Probably another 30 to 40 minutes. 3 JUDGE EGAN: We can keep our stuff in 4 here. Is that correct? 5 MR. WALKER: Yes, ma'am. 6 JUDGE EGAN: Remind your neighbors that 7 the location has been moved back to here, if you 8 happen to see them, maybe. And we will be posting 9 notices on the -- what is the name of it -- 10 MR. WALKER: Lone Star Convention 11 Center. 12 JUDGE EGAN: -- Lone Star Convention 13 Center -- that the hearing is reconvening tomorrow 14 morning at 9:00 in this hearing room. 15 Thank you-all. See you in the morning. 16 (Proceedings recessed at 6:00 p.m.) 17 18 19 20 21 22 23 24 25</p>

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